PB-214 580

STORAGE AND RETRIEVAL OF WATER QUALITY DATA. TRAINING MANUAL

Environmental Protection Agency
Washington, D. C.

April 1971

DISTRIBUTED BY:

NTIS

National Technical Information Service
U. S. DEPARTMENT OF COMMERCE
5285 Port Royal Road, Springfield Va. 22151

PB 214 580

STORAGE AND RETRIEVAL OF WATER QUALITY DATA

CLEAN WATER

TRAINING MANUAL

Reproduced by
NATIONAL TECHNICAL
INFORMATION SERVICE
U S Department of Commerce
Springfield VA 22151

WATER QUALITY OFFICE
ENVIRONMENTAL PROTECTION AGENCY

R
303

STORAGE AND RETRIEVAL OF WATER QUALITY DATA

The contents of the report make up

which

STORET is the data storage and retrieval system developed by and for the EPA and is a system suitable to the needs of all users of water quality and water resource data. This course is intended to provide information and instruction on the STORET system for those persons directly involved in accumulating, processing and utilizing water data.

[illegible]

ENVIRONMENTAL PROTECTION AGENCY
Water Quality Office
TRAINING PROGRAM

April 1971

FOREWORD

These manuals are prepared for reference use of students enrolled in scheduled training courses of the Water Quality Office, Environmental Protection Agency.

> *Due to the limited availability of the manuals, it is not appropriate to cite them as technical references in bibliographies or other forms of publication.*
>
> *References to products and manufacturers are for illustration only; such references do not imply product endorsement by the Water Quality Office, Environmental Protection Agency.*

The reference outlines in this manual have been selected and developed with a goal of providing the student with a fund of the best available current information pertinent to the subject matter of the course. Individual instructors may provide additional material to cover special aspects of their own presentations.

This manual will be useful to anyone who has need for information on the subjects covered. However, it should be understood that the manual will have its greatest value as an adjunct to classroom presentations. The inherent advantages of classroom presentation is in the give-and-take discussions and exchange of information between and among students and the instructional staff.

Constructive suggestions for improvement in the coverage, content, and format of the manual are solicited and will be given full consideration.

HM Freeman

H.M. Freeman
Chief, Direct Training Branch
Division of Manpower and Training
Water Quality Office
Environmental Protection Agency

TRAINING PROGRAM

Through the Water Quality Office, Environmental Protection Agency conducts programs of research, technical assistance, enforcement, and technical training for water pollution control.

Training is available at five installations of the Agency. These are: the National Training Center located at the Robert A. Taft Sanitary Engineering Center in Cincinnati, Ohio; the Robert S. Kerr Water Research Center, Ada, Oklahoma; the Southeast Water Laboratory, Athens, Georgia; the Pacific Northwest Water Laboratory, Corvallis, Oregon; and the Hudson-Delaware Basins Office, Edison, New Jersey.

The objectives of the Training Program are to provide specialized training in the field of water pollution control which will lead to rapid application of new research findings through updating of skills of technical and professional personnel, and to train new employees recruited from other professional or technical areas in the special skills required. Increasing attention is being given to development of special courses providing an overview of the nature, causes, prevention, and control of water pollution.

Scientists, engineers, and recognized authorities from other Agency programs, from other government agencies, universities, and industry supplement the training staff by serving as guest lecturers. Most training is conducted in the form of short-term courses of one or two weeks' duration. Subject matter includes selected practical features of plant operation and design, and water quality evaluation in field and laboratory. Specialized aspects and recent developments of sanitary engineering, chemistry, aquatic biology, microbiology, and field and laboratory techniques not generally available elsewhere, are included.

The primary role and responsibility of the States in the training of wastewater treatment plant operators are recognized. Technical support of operator-training programs of the States is available through technical consultations in the planning and development of operator-training courses. Guest appearances of instructors from the Environmental Protection Agency, and the loan of instructional materials such as lesson plans and visual training aids, may be obtained through special arrangement. These training aids, including reference training manuals, may be reproduced freely by the states for their own training programs. Special categories of training for personnel engaged in treatment plant operations may be developed and made available to the States for their own further production and presentation.

An annual Bulletin of Courses is prepared and distributed by the Water Quality Office. The Bulletin includes descriptions of courses, schedules, application blanks, and other appropriate information. Organizations and interested individuals not on the mailing list should request a copy from one of the training centers mentioned above.

ENVIRONMENTAL PROTECTION AGENCY
WATER QUALITY OFFICE
DIVISION OF MANPOWER AND TRAINING

R. F. Guay, Director

Training Grants Branch
Manpower Planning Branch
State and Local Manpower
Development Branch
Direct Training Branch
Office of Environmental Activities

National Training Center
Robert A. Taft Sanitary
Engineering Center
4676 Columbia Parkway
Cincinnati, OH 45226

REGIONAL MANPOWER DEVELOPMENT AND TRAINING OFFICES

Northeast Region

Manpower and Training Office
John F. Kennedy Federal Building
Room 2303
Boston, MA 02203

Manpower and Training Office
Hudson-Delaware Basins Office
Edison, NJ 08817

Middle Atlantic Region

Manpower and Training Office
918 Emmett Street
Charlottesville, VA 22901

Southeast Region

Manpower and Training Office
Southeast Water Laboratory
College Station Road
Athens, GA 30601

Ohio Basin Region

Manpower and Training Office
Federal Office Building
Room 7027
Cincinnati, OH 45226

South Central Region

Manpower and Training Office
Robert S. Kerr Water Research Center
P. O. Box 1198
Ada, OK 74820

Missouri Basin Region

Manpower and Training Office
911 Walnut Street
Kansas City, MO 64106

Great Lakes Region

Manpower and Training Office
33 E. Congress Parkway
Chicago, IL 60605

Southwest Region

Manpower and Training Office
620 Central Avenue
Alameda, CA 94501

Pacific Northwest Region

Manpower and Training Office
Pacific Northwest Water Laboratory
200 South 35th Street
Corvallis, OR 97330

CONTENTS

Title or Description		Outline Number
CHAPTER I	THE STORET SYSTEM	
	STORET Fundamentals	1
	STORET System Design	2
CHAPTER II	DEFINING STATION LOCATIONS	
	Hydrologic (River-Mile-Index) Coding	3
	Station Location by Geographic Coordinates	4
CHAPTER III	TYPICAL PROBLEM	
	Typical STORET Problem	5
CHAPTER IV	STATION LOCATION STORAGE	
	Station Location Storage	6
CHAPTER V	DATA STORAGE	
	Storage of Water Quality Data	7
CHAPTER VI	CHANGING AND DELETING STATION AND WATER QUALITY DATA	
	Data Modification and Deletion	8
CHAPTER VII	RETRIEVAL	
	Standard Retrieval	9
	Retrieval for Analysis	10
APPENDICES		
	State-County Codes	A
	Parameter Codes	B

CHAPTER I

THE STORET SYSTEM

Outline No.

STORET Fundamentals 1

STORET System Design 2

STORET FUNDAMENTALS

I DEFINITION

Storet is the acronym used to identify the computer-oriented U. S. Environmental Protection Agency management information system for STOrage and RETrieval of water quality, municipal and industrial waste facility inventory, water quality standards compliance, fish kill, oil spill, construction cost, and other related data.

II ADVANTAGES OF THE SYSTEM

A STORET provides a central repository for all water quality and related data collected by EPA and cooperating agencies.

B Data contributed by one agency or location may be made available to its counterparts.

C Data is protected against loss.

D When fully developed the STORET data record constitutes a larger data base for decision making than can be gathered any single agency or location.

E Water quality data entered in STORET may be retrieved in raw form. This expedites visual examination of complete output records.

F Water quality data may also be retrieved from STORET in statistically analyzed form. In addition, STORET is capable of other types of analysis such as comparison of water quality to Federal-State standards and digital plotting of data and maps.

G Data entered in STORET are accessed and become available for retrieval immediately. Thus rapid exchange of up-to-date status reports among agencies and locations is expedited.

H Data may be entered and retrieved from STORET in numerous modes and forms. Thus, STORET is adapted to diverse operational requirements and constraints.

I The availability of data may be restricted to a single user. Thus, a user may store, retrieve, and analyze sensitive data with no fear of unauthorized retrieval or modification.

III NEED FOR COMPUTER HANDLING OF DATA

A Computers provide the most efficient means of handling the large volume and variety of water quality and related data being collected today.

B Finding, extracting, and summarizing desired data are difficult, time consuming, and expensive using clerical methods.

C Automatic Data Processing (ADP) provides a rapid and efficient means for storage and retrieval of data for immediate visual examination and for further processing.

D Remote telecommunication terminals allow nearly simultaneous storage and retrieval of data at diverse geographical locations.

IV STORET LIMITATIONS

A Use of STORET requires specialized advance training. However, users rapidly become proficient in utilization of storage, retrieval, and analysis options.

B The accuracy of data contained in STORET is solely dependent upon the user. However, all data will be reliable provided users exercise discretion during storage.

V SUMMARY

STORET is a comprehensive management information system for storage and retrieval of water quality and related data. The system maximizes availability of data collected by diverse agencies and locations. Rapid, inexpensive storage, retrieval, and analysis of large volumes of both nonsensitive and confidential data are possible.

This outline was prepared by F. P. Nixon, Chief, Field Investigation Section, Edison Water Quality Laboratory, EPA, Edison, NJ 08817

STORET SYSTEM DESIGN

I HISTORY

A STORET began as a computer-oriented system for storage and retrieval of raw water quality data.

B As the system developed, capabilities were added for statistical and other analysis of data. In addition, methods of storing and retrieving data were expanded.

C As needs became apparent, STORET was expanded to handle other types of data such as municipal and industrial waste facility information, construction cost, and other data.

D STORET continues to grow in this manner. This process will continue as STORET fulfills its role as a responsive management information system.

II SYSTEM DESIGN

A STORET is essentially a complex of computer programs and program elements which are activated by the coding and type of cards entered at remote terminal locations.

B On operational, historical, and technical bases, the programs may be divided into two major groups. Both groups receive approximately equal usage.

1 Water Quality Data Programs

These programs are related to the storage, retrieval, and analysis of water quality data. They are characterized by extreme sophistication and numerous options for storage, retrieval and analysis of data in accordance with operational requirements. They represent the original programs of the System.

a These programs store, retrieve, and analyze two basic types of data:

Station location data which are related to the location at which water quality samples are collected and Water quality data which are related to the date, time, type sample, and reported result of water quality analysis.

b Stations at which samples are collected are located by two methods:

(1) hydrologic index which locates a station on a defined river system. This method allows sorting and retrieval of data records in relation to direction and level of stream flow.

(2) geographical coordinates (latitude-longitude). This method allows storage and retrieval of data collected from large open bodies of water and locations which cannot be readily associated with points on a stream.

(3) A sampling location may be defined by both hydrologic index and geographical coordinates to allow storage and retrieval by either method.

2 Waste Facilities Inventory and Other Programs

These programs store and retrieve data related to the location, treatment practices, and pollution abatement status of municipal and industrial waste facilities, and location, causes, etc. of fish kills and oil spills. Although these programs are not highly complex, they are heavily utilized because of the critical nature of this information.

C STORET utilization is not simply a process of completing prescribed columns or groups of columns (called "fields") on computer cards. By judicious use of certain use control fields and careful selection of card types, the actual method of storage, retrieval, and analysis may be modified to reduce keypunching or satisfy operational requirements.

III SUMMARY

STORET has evolved from a storage-retrieval system for raw water quality data to a storage-retrieval-analysis system for water quality, waste facility, and other data. Storage, retrieval, and analysis of water quality data approximately equals other uses. Sampling locations may be defined by hydrologic index and/or geographical coordinates to allow retrieval on a stream flow or geographical basis. Options in storage, retrieval, and analysis of water quality and other data are so numerous that their selection and use constitutes "programming."

This outline was prepared by F. P. Nixon, Chief, Field Investigation Section, Edison Water Quality Laboratory, EPA, Edison, NJ 08817

CHAPTER II

DEFINING STATION LOCATIONS

	Outline Number
Hydrologic (River-Mile-Index) Coding	3
Station Location by Geographic Coordinates	4

HYDROLOGIC (RIVER-MILE-INDEX) CODING

Before information such as water quality data can be stored or retrieved, the point of sampling must be adequately described and located in STORET format. One method of doing this is by defining a location in terms of a hydrologic index.

I DEFINITION

A hydrologic index is a numerical code which identifies the location of a point on a defined river system by defining its distance from and hydrologic relationship to the mouth of the river system. A complete hydrologic index is composed of the following codes.

A A two-digit major basin code

B A two-digit minor basin code

C A three-digit terminal stream number

D Indexes which define the direction and level of stream flow

E Mileages which define the distances between and to confluences in the river system

F A code which identifies the stream level on which the point is located

A complete hydrologic index may include 15-112 numerical digits and may be contained on one (1) or two (2) STORET storage or retrieval control cards.

II DEFINED RIVER SYSTEMS

For several years Environmental Protection Agency (EPA) personnel have been engaged in measuring mileages and assigning indexes to stream systems ("coding") in the United States. Coding for much of the United States is complete. Record maps (USGS 7-1/2 minute scale) indicating the defined stream coding are available from STORET Operations and possibly EPA Regional Offices. In some areas, new coding may be required.

A Major and Minor Basins

A nationwide basin breakdown was established by the EPA (formerly the Federal Water Quality Administration) several years ago based on information submitted by field offices. This basin breakdown is shown in Figure 1. The exact location of major and minor basin boundaries is indicated on record maps maintained by STORET Operations.

B Terminal Stream Numbers

Terminal stream numbers have also been assigned by EPA field offices. Numbers and zero mile points are indicated on record maps maintained by STORET Operations.

III CODING PROCEDURE

Stream coding is essentially a process of renaming of all streams in an area using a system of code numbers and mileages which will allow data points to be precisely located. This process proceeds as follows:

A Terminal Major and Minor Basin Codes

1 Beginning at the mouth of a river system, two digit major and minor basin codes are assigned in accordance with the standard breakdown adopted by STORET Operations. These are called terminal basin codes. A "terminal basin" is that basin in which a river flows.

   a Into an ocean or large lake

   b Across an international boundary and permanently out of the United States

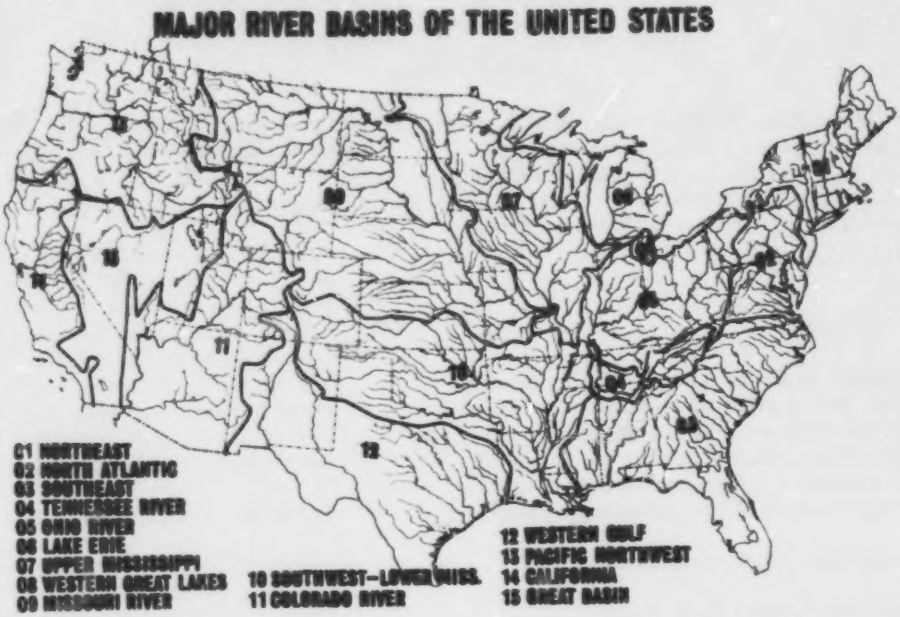


Figure 1

c Into a dead area such as the Great Salt Lake

2 It is possible for a sampling station to be located physically in major and minor basins other than the terminal major and minor basins associated with it (and its river system). For example, a sampling station on the Ohio River at Cincinnati would be physically located in major basin 05 (Ohio River). However, its terminal major basin would be 10 (Southwest Lower Mississippi) since this is the last basin through which water from the Ohio flows before it enters the ocean.

B Terminal Stream Numbers

1 Stream number

The three-digit terminal stream number is a specific number assigned to each stream which flows into an ocean or large lake, across an international boundary, or into a dead area. Terminal stream numbers within a minor basin are determined by numbering the streams, beginning with 001 at the terminal basin boundary, in the counter-clockwise direction with respect to the periphery of the United States. See Figure 2.

2 Zero mile point

The zero mile point for terminal streams is located where the stream enters the ocean or a large lake, crosses an international boundary, or disappears in a dead area. Ordinarily, mileages along major streams can be measured from zero points previously established by the U.S. Army Corps of Engineers or other government agencies. It is generally desirable to use previously established zero mile points. STORET Operations maintains a record file of terminal stream numbers and zero mile points.

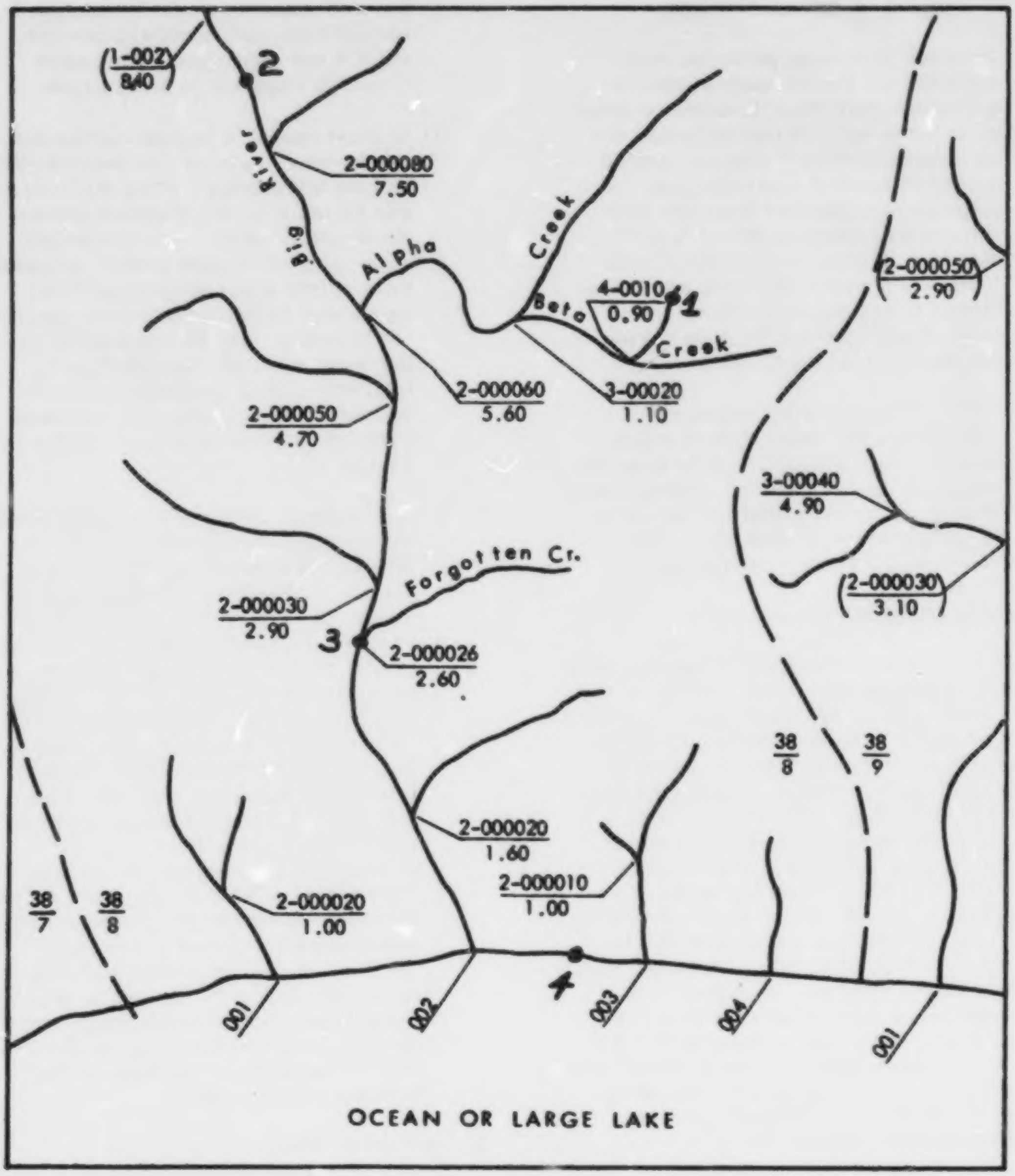


Figure 2. TYPICAL STREAM CODING FOR A TERMINAL MINOR BASIN

C Measurement of Stream Mileages

1 Once the zero mile point has been established, the mileage to each of the next higher level tributaries must be determined. These mileages can be determined from suitably scaled maps. When the level changes, mileage is measured from the confluence with the next lower level stream. In Figure 2, Alpha Creek joins Big River 5.60 miles above the mouth of Big River and Beta Creek joins Alpha Creek 1.10 miles above the mouth of Alpha Creek.

2 Although STORET mileages are reported to the nearest 0.01 miles, the accuracy with which mileages are measured is not critical. The purpose of reporting to the nearest 0.01 mile is simply to allow differentiation between two closely spaced points.

D Stream Level and Index Coding

Code numbers are assigned consecutively in the upstream direction. Based on the observer looking upstream, even numbers are assigned to tributaries entering the base river from the right-hand side and odd numbers to tributaries entering from the left-hand side. The first tributary encountered would be given the number 10 or 20 (preceeded by a prescribed number of zeros) depending on whether it enters from the left or right-hand side. The next tributary encountered will be given a code number 10 or 20 higher than the previous number. In general, if a stream has a code value of N then the next stream will have a value of N + 10 or N + 20 depending whether it enters the main stem on the opposite or the same side of the stream. Figure 2 shows typical stream coding.

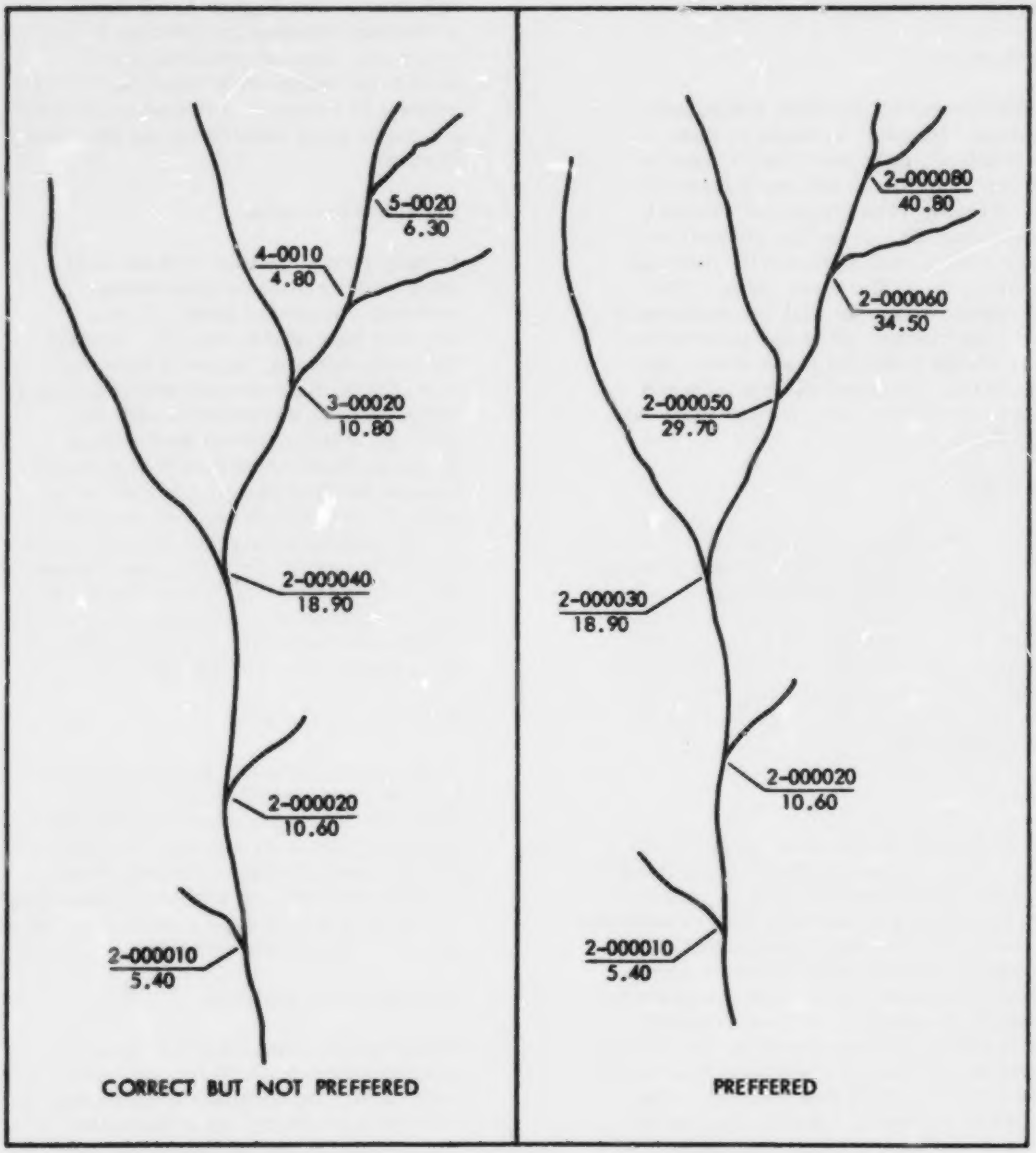
1 The right-hand digit of index numbers is normally zero. The only time that the right-hand digit would be other than zero is when a river system has been coded and it is later discovered that the code numbers for one or more streams have been omitted. In this case, the omitted streams would be assigned odd or even code numbers and the right-hand digit used. Forgotten Creek in Figure 2 is an example.

2 In most cases, a logical distinction can be made between the main stream and its tributaries. This distinction can be made on the basis of stream name and/or size. In some cases, especially headwater areas, streams branch into apparently equal level streams. In this case either one of the branches may be considered as the main stem and the other as the tributary. It is generally desirable to avoid index coding which creates unduly high stream levels. Refer to Figure 3.

3 The method used in Figure 2 to display the stream level, code number, and mileage is a standard STORET convention. The first left-hand number above, the line is the stream level number and the number after the dash is the stream index code. Stream level is indicated on maps but not actually coded on cards. The stream index code will have a total of six digits for second level streams, five digits for third level streams, and four digits for fourth and higher level streams. The number below the line is the mileage from the mouth of the next lower level stream to the mouth of the tributary being coded. Mileage figures are always carried to the second decimal place even though this figure is usually zero. The group of figures describing a stream confluence point should always be recorded on the same side of the primary stream as the tributary being coded.

E Last Level Used

To locate a station or point a code must be provided to indicate the last level used, i.e., the stream level on which the station or point is located. Since actual sampling station locations are not coded on STORET maps, the last level code is not displayed. However, last level code is provided on STORET storage and retrieval cards.



CORRECT BUT NOT PREFFERED

PREFFERED

Figure 3. ALTERNATE METHODS OF CODING A STEAM

F Special Stream Coding Problems

1 Delta areas

Where terminal streams divide into several "fingers" because of delta formations, only one of the channels can be selected as the main stem of the stream. That finger or channel containing the navigation channel or having the greatest flow will generally be selected as the main stem. The remaining channels will be considered as being blocked off at the point where they divide from the main stem, and therefore, regarded simply as short streams entering into the ocean or lake. See Figure 4.

2 Sloughs

Where dredging or a stream's meandering has created sloughs adjacent to the main stem, these sloughs are regarded as short tributaries to the main stem with their upstream ends theoretically blocked off from the main stem. The sloughs will then be coded as if they were normal tributaries to the main stem.

3 Islands

Small islands situated in large streams may simply be disregarded for mileage measuring and stream coding purposes. Large islands, especially those containing stream patterns and human activity, create problems which must be given special consideration. For purposes of mileage measuring, a "main channel" on one side or the other of large islands must be selected and mileage measured along the length of this channel. The secondary channel may or may not be considered as a tributary stream depending on the importance of streams and human activity on the island and on the secondary channel. If it appears likely that data pertaining strictly to the secondary channel may be of importance, then the secondary channel should be considered as being blocked off at the upstream end and coded as for a normal tributary. See Figure 5. If the secondary channel is coded as a tributary, special provisions will have to be made when using the STORET system to retrieve data upstream from a control point located on the secondary channel.

4 Broad stream beds

Broad, poorly defined stream beds, often with braided or intertwined streams, occur frequently in the western part of the country. Coding for such streams can be handled by selecting a main stream and projecting tributaries to the main stream for mileage measurements and coding. Small streams contained in the same stream bed are simply considered as part of the main stream unless they are separated by a great distance from the main stream or if the small streams have tributaries. In these cases, the small streams are considered as tributaries to the main stream with their upper ends blocked off.

5 Intermittent streams

Intermittent streams should be coded as if they are continuously flowing streams. In cases where intermittent stream systems are shown on maps as terminating without joining other stream systems, an artificial connection should be made if such a connection is not precluded by topography.

6 Discontinuous drainage

Minor basins containing a number of stream systems which dry up, enter dead lakes, etc. within the basin and which are precluded by topography from joining other streams are considered as terminal minor basins. It is suggested that such stream systems be given a number at the point where they terminate and that the stream mileage be measured from this point just as if the stream flowed into an ocean. Refer to Figure 6.

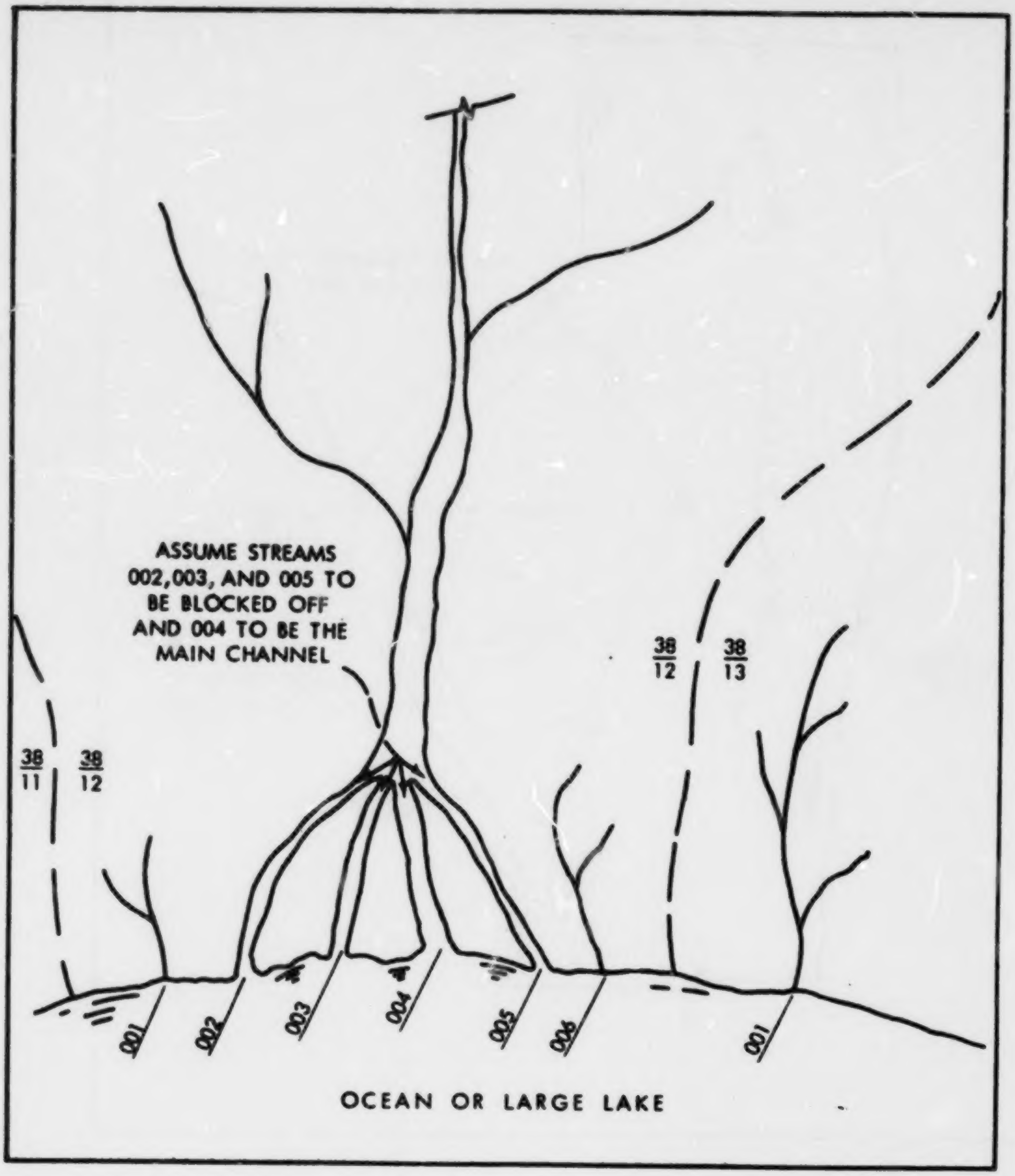

ASSUME STREAMS 002,003, AND 005 TO BE BLOCKED OFF AND 004 TO BE THE MAIN CHANNEL
38/11
38/12
38/12
38/13
001
002
003
004
005
006
001
OCEAN OR LARGE LAKE

Figure 4. STREAM CODING FOR DELTA AREAS

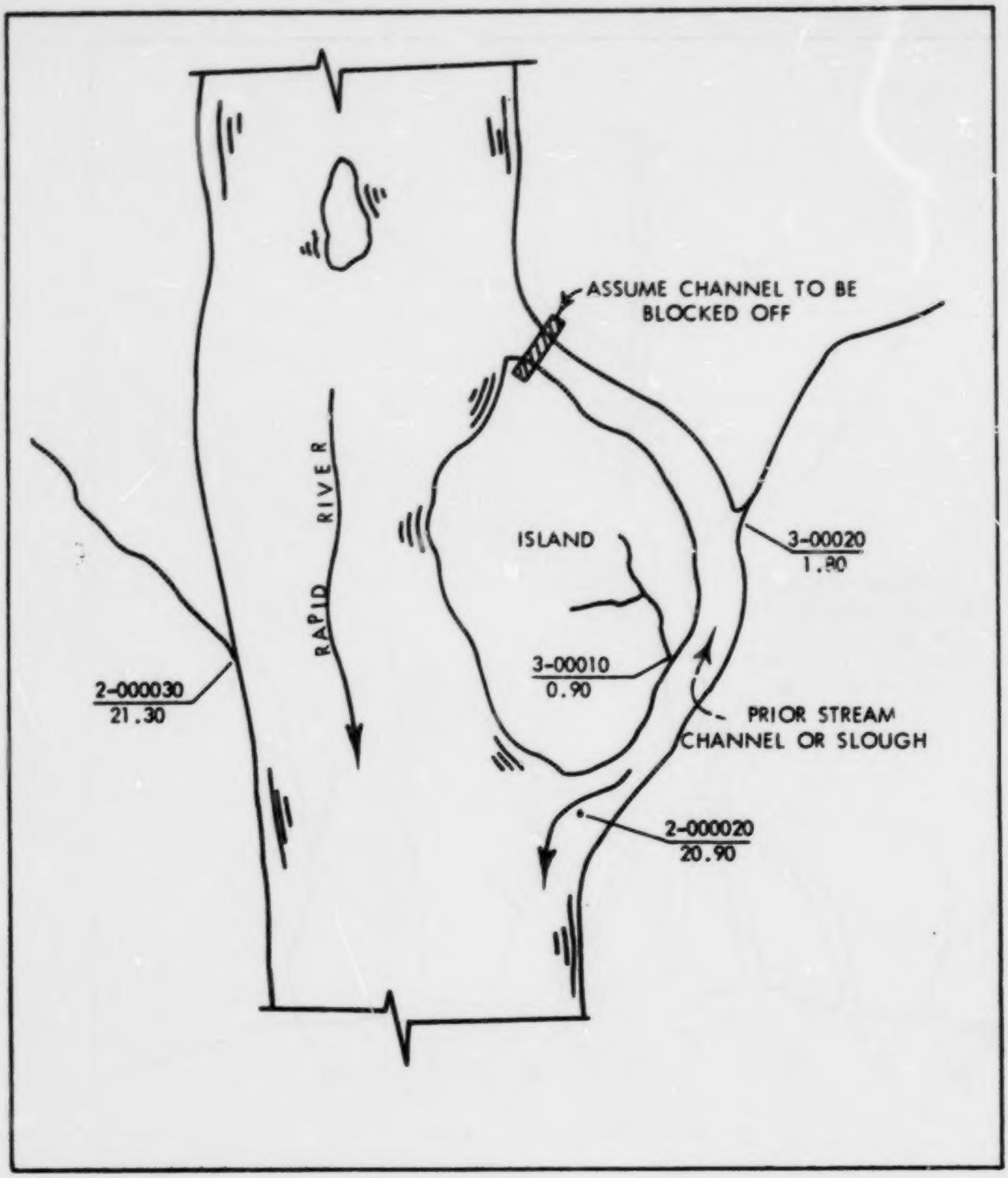


Figure 5. STREAM CODING FOR SECONDARY CHANNELS

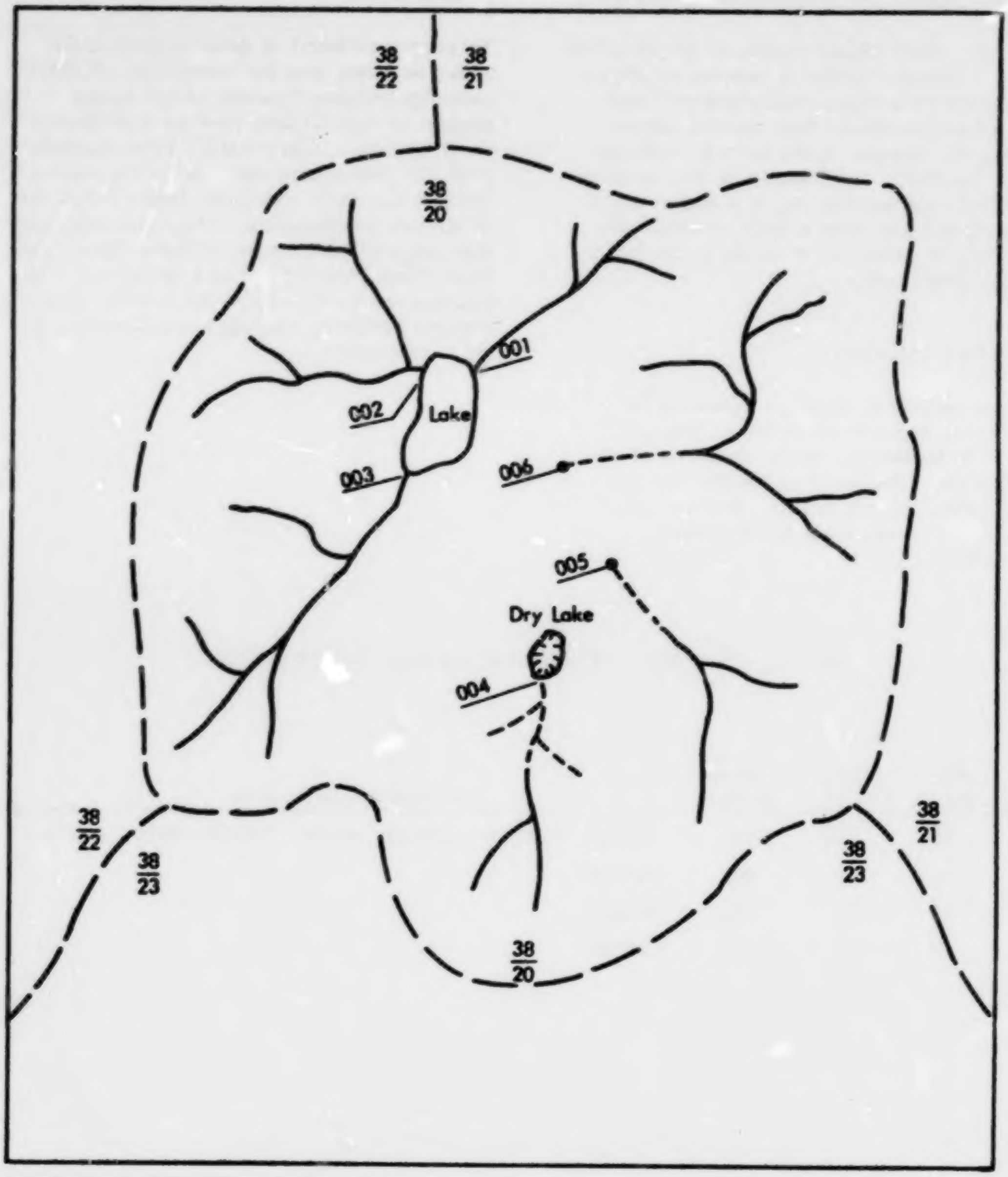


Figure 6. STREAM CODING FOR DISCONTINUOUS DRAINAGE

IV ADVANTAGES OF HYDROLOGIC CODING

River-Mile-Index (RMI) coding is the original STORET method of defining station locations. STORET uses the river-mile-index to sort station data records so that station output printouts will appear in the actual order in which the stations are located on the stream. This feature allows tracing of a contaminant up or downstream from a defined point and other types of retrieval in which hydrologic order is significant.

V TYPICAL CODING

The three sampling stations indicated in Figure 2 are located as shown in Table 1. Station 1 is located in the headwaters of the river system. Station 2 is located far up the main stem of Big River. Station 3 is located at the confluence of Forgotten Creek and Big River.

VI SUMMARY

To allow retrieval of data in hydrologic order stations may be located in STORET using hydrologic indexes which define station (or point) locations on a defined river system. Many major river systems of the United States have been "re-named" using hydrologic coding to define locations of stream confluences. Maps or index logs may be available from STORET Operations. Point locations are defined using codes to indicate major basin, minor basin, terminal stream number, mileages and indexes, and last level used.

TABLE 1. STATION LOCATION BY RIVER-MILE*-INDEX

Station	Major Basin	Minor Basin	Terminal Stream	Indexes and Mileages *							Last Level
1	38	08	002	000560	000060	000110	00020	00090	0010	00075	04
2	38	08	002	000795							01
3	38	08	002	000260							01
4	38	99	001	003220							01

This outline was prepared by F.P. Nixon, Chief, Field Investigation Section, Edison Water Quality Laboratory, EPA, Edison, NJ 08817.

STATION LOCATION BY GEOGRAPHICAL COORDINATES

I NEED FOR A GEOGRAPHICAL LOCATION TECHNIQUE

As experience with STORET increased, it became obvious that many stations - particularly those on open waters such as oceans, lakes, bays, and estuaries - could not be located using the hydrologic system.

II STORET RESPONSE

Accordingly STORET was expanded to allow point location by simple specification of conventional geographic coordinates (latitude-longitude) and the degree of precision associated with their measurement

III ADVANTAGE OF GEOGRAPHICAL LOCATION

A Precludes the necessity of complex river-mile-index cooling

B Provides a rapid and familiar method of defining station locations

C Allows retrieval on a pure geographical basis. Thus retrieval may be limited to stations within the known boundaries of open bodies of water such as Lake Erie, Long Island Sound, etc. This technique may also be used to store and retrieve data collected at wells and groundwater analysis stations, which are not associated with a river system.

IV DUAL POINT LOCATION

A point may be located in STORET using both hydrologic (river-mile-index) and geographical methods. Whenever possible, location by both methods is recommended to allow retrieval by either method.

V SUMMARY

STORET station locations may be defined using geographical coordinates and/or river-mile-index. Geographical location may be used to reduce time and effort for data handling and define locations and retrieval areas not associated with a river system. Whenever possible, both geographical and hydrologic methods should be used.

This outline is prepared by F. P. Nixon, Chief, Field Investigation Section, Edison Water Quality Laboratory, EPA, Edison, NJ 08817

CHAPTER III
TYPICAL PROBLEM

	Outline Number
Typical STORET Problem	5

TYPICAL STORET PROBLEM

I PURPOSE

A This outline presents a typical problem which might be presented to a STORET user.

B The problem illustrates procedures for storage, retrieval, and analysis of water quality and stream flow data collected at surface water, municipal and industrial waste, and water treatment plant intake locations.

C Although the problem situation and solution are described herein, the problem will be referenced in the test of subsequent Sections. The reader should become familiar now with the problem situation.

II PROBLEM SITUATION

A program known as the Goose Bay Survey wishes to store, retrieve and statistically analyze data gathered in the area shown by Figures 1, 2, and 3. Figure 1 is an area map showing the general conditions of the examples. Figure 2 is the same area map with added river-mileage-index coding. Figure 3 indicates station locations and details.

Location and water quality data acquired from the fourteen (14) locations of the survey are summarized in Tables 1, 2, 3, and 4. Table 4 completes all the information needed to prepare data for storage.

III PROBLEM SOLUTION

A Completed coding forms to accomplish the necessary storage and retrieval are presented in Figures 4 to 79.

B Complete STORET printouts of water quality data are presented in Figures 80 to 112.

This outline was prepared by F. P. Nixon, Chief, Field Investigation Section, Edison Water Quality Laboratory, WQO, EPA, Edison, NJ 08817.

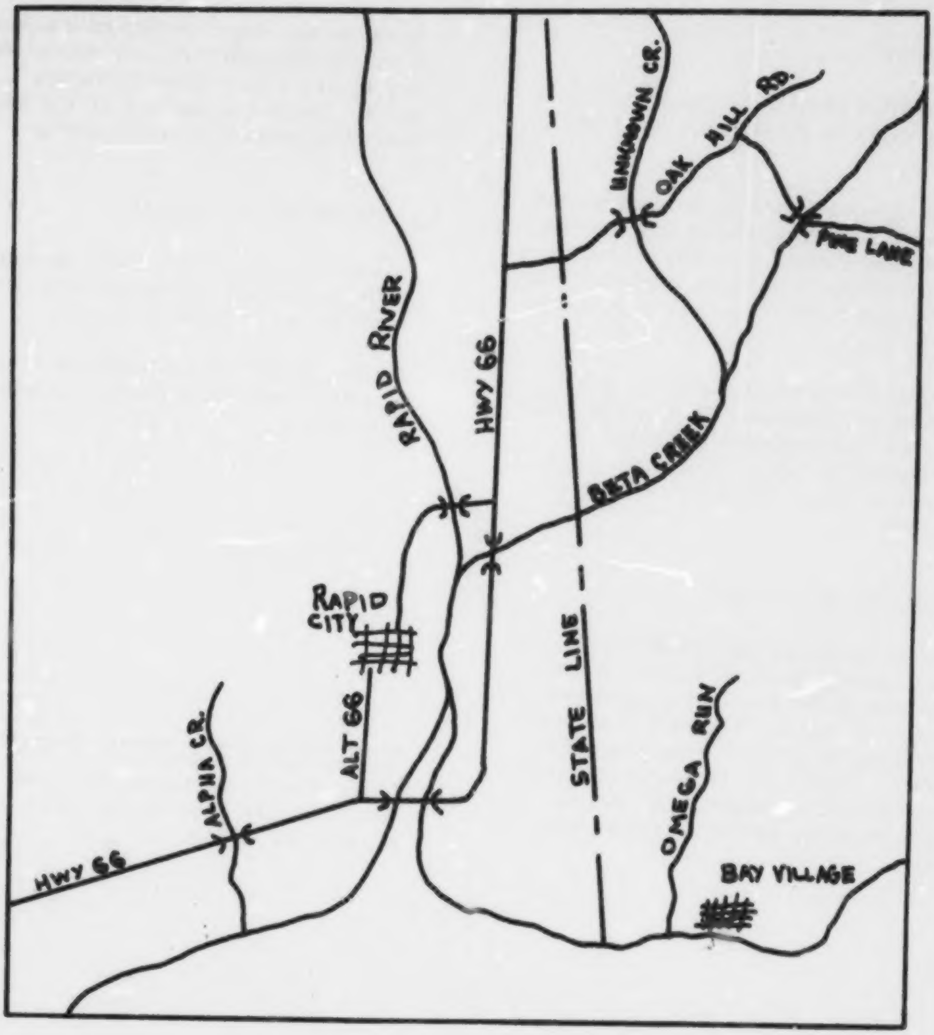


FIGURE 1
GOOSE BAY AREA MAP

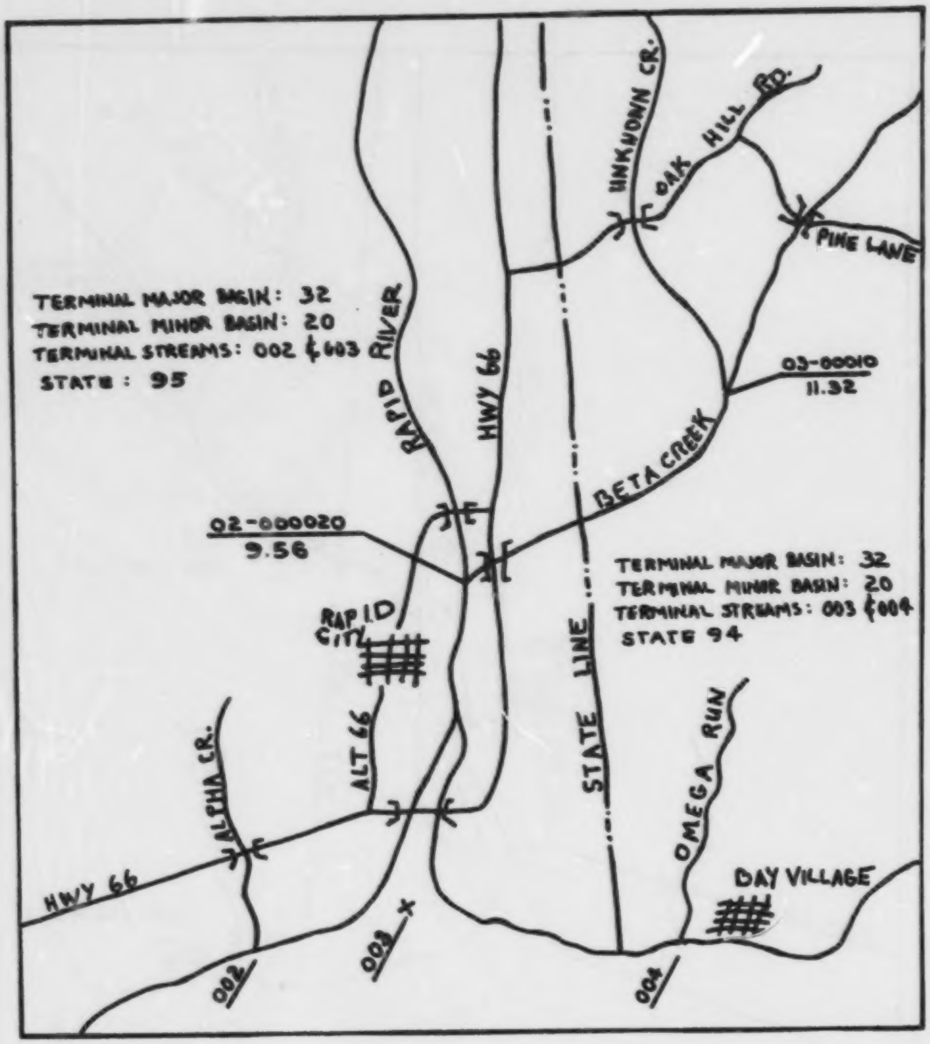


FIGURE 2

RIVER-MILEAGE-INDEX CODING

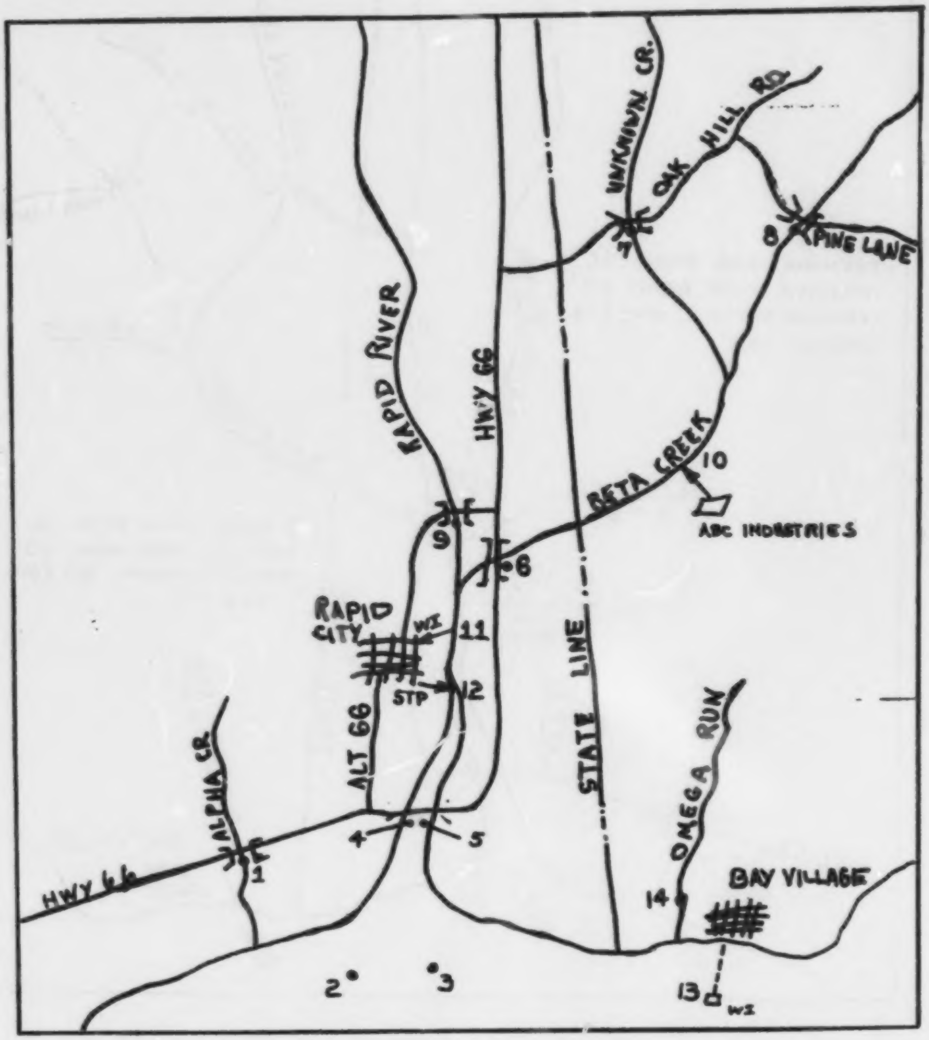


FIGURE 3

GOOSE BAY SURVEY STATIONS

TABLE 1. STORET PROBLEM STATION LOCATIONS

Station	Description		Type Station
1	Alpha Creek at Hwy 66 Bridge, 5.32 miles from Goose Bay		Water Quality
2	Goose Bay - Lat. 43° 23' 10½" Long. 63° 30' 5"	Sta. Depth 110 ft.	Water Quality
3	Goose Bay - Lat. 43° 20' 5" Long. 62° 30' 5½"	Sta. Depth 32 ft.	Water Quality
4	Rapid River at west side of Hwy 66 Bridge, 2 miles from Goose Bay Lat. 43° 40' 31" Long. 63° 30' 5"	Sta. Depth 8 ft.	Water Quality
5	Rapid River at east side of Hwy 66 Bridge, 2 miles from Goose Bay Lat. 43° 40' 31" Long. 63° 30' 5.1"	Sta. Depth unknown	Water Quality
6	Beta Creek at Hwy 66 Bridge, 1.8 miles upstream from Rapid River. Also USGS gauge 03645		Water Quality and Flow
7	Unknown Creek at Oak Hill Road, 0.96 miles from Beta Creek. Also state station CT005		Water Quality and Flow
8	Beta Creek at Pine Lane Bridge, 2.19 miles from Unknown Creek Also state station CT006		Water Quality and Flow
9	Rapid River at Alt 66 Bridge, 1.09 miles from Beta Creek. Also USGS gauge 03648		Water Quality and Flow
10	Outfall from ABC Industries on Beta Creek, 1.23 miles downstream from Unknown Creek		Treated Effluent
11	Rapid City water intake, 6.8 miles upstream from Hwy 66 Bridge		Intake
12	Rapid City STP outfall, 1.53 miles downstream from water intake		Outfall
13	Bay Village water intake in Goose Bay Lat. 43° 62' 10" Long. 62° 31' 11"		Intake
14	Omega Run, 1.09 miles from Goose Bay		Water Quality

TABLE 2. STORET PROBLEM SURVEY DATA

Date	Time	Depth	Temp.	DO	pH	Alk.	BOD	Cl^-
Station 1								
5/10/19	10:00 am		10	4.5	7.1	78	---	35
6/11/19	---		12.5	6.25	7.8	89	3.5	160
Station 2								
5/10/19	2:00 pm	-----	8.2	6.1	---	52	---	33
6/11/19	11:30 am	Surface	11	7.5	7.9	--	2.1	28
6/11/19	11:30 am	15 ft	9.5	3.7	8.2	--	5.6	22
6/11/19	11:30 am	Bottom	6.5	1.5	9.1	--	---	--
Station 3								
5/10/19	12:00 am	10 ft	7.1	> 4	---	--	---	---
6/11/19	9:00 am	---	8.2	3.5	---	--	---	---
6/11/19	9:15 am	30 ft	4.5	1.5	---	--	---	---
Station 4								
5/10/19	8:00 am	----	9.5	12.0	8.2	--	<8.0	---
6/11/19	8:00 am	Surface	4.1	3.1	7.6	--	---	155
6/11/19	8:00 am	5 ft	2.2	15.2	---	89	---	---
Station 5								
5/10/19	24 hr comp		10	6.5	---	--	6.2	---
6/11/19			5	5.5	---	95	---	185
Station 6								
5/10/19	8:00 am to		15	---	8.2	78	6.5	35
6/11/19	2:00 pm		16.5	4.3	---	95	---	---
	5 samples composited							
Station 7								
5/10/19			13.6	8.2	---	--	---	40
6/11/19			12	---	7.5	--	2.5	---
Station 8								
5/10/19	8:00 am		10	5.2	8.2	--	5.1	68
6/11/19	2:00 pm		8.9	6.01	7.9	89	---	---
Station 9								
5/10/19			12.2	4.1	---	--	5.8	50
6/11/19	1:00 pm		----	---	8.2	--	2.1	62
Station 14								
5/10/19	9:00 am		8.2	4.7	---	--	3.1	--
6/11/19	10:00 am		6.3	---	8.7	--	10.5	46

TABLE 3
STORET PROBLEM
Survey Data

Station	Date	Time	Temp	DO	BOD	Coliform	Iron	NH_3
10	5/10/19	----	32	2.1	95	490	.85	15.1
	6/10/19	24 hr comp.	--	---	63	---	1.21	12.2
11	5/10/19	1005	10.2	4.1	4.9	2,500	.16	0.26
	6/11/19	1432	6.5	5.2	2.6	8,900	.23	0.49
12	5/10/19	2:00 pm	22.0	1.8	50.2	10,000,000	.12	25.6
	6/11/19	8:00 am to 4:00 pm	---	---	63	---	.08	32.9
13	5/10/19	10:00 am	5.2	6.7	1.2	200	.05	.21
	6/11/19	10:00 am	5.35	4.3	0.8	80	.01	---

TABLE 4
GOOSE BAY SURVEY
Analyses Performed

1. Temp. - Temperature in degrees Centigrade
2. Depth of sample - Recorded in feet
3. pH - Standard units
4. DO - Dissolved oxygen in mg/l
5. ALK - Total alkalinity in mg/l as $CaCO_3$
6. BOD - Biochemical Oxygen Demand (5 day), mg/l
7. Cl - Dissolved chlorides, mg/l
8. Coliform - Total coliform, MF, number/100 ml
9. Iron - Dissolved iron as Fe in mg/l
10. NH_3 - Ammonia nitrogen in mg/l as Nitrogen

FWPCA STORET SYSTEM
DIVISION OF POLLUTION SURVEILLANCE
USER INFORMATION & STATION DATA
REQUIRED FOR STORAGE AND CHANGES

AGENCY CARD

AGENCY (USER) CODE: E X A M P L E 2 (1–8) BLANK 9-16

UNLOCKING KEY: T E S T (17–24)

USER NAME, LOCATION, PROJECT, ETC.: S T O R E T E X A M P L E P R O (25–42)

B L E M 3 / 1 3 / 7 1 (43–61)

DEPTH-FEET (F) OR METERS (M): F (62)

STORE CODE: (63–65)

STATION TYPE: 0 2 1 1 1 2 0 4 (66–73)

UNLOCKING DATE YEAR 9 9 (74 75) MO. 9 9 (76 77)

CONTROL CODE: (78 79) A (80)

STATION CARD

SEQUENCE NUMBER: 1 0 1 (1–3)

PRIME STATION CODE: 9 5 0 0 0 1 (4–18) * BLANK 19-33

(1) SECONDARY STATION CODE: 0 0 1 (34–45) *

(2) SECONDARY STATION CODE: (46–57) *

(3) SECONDARY STATION CODE: (58–67) *

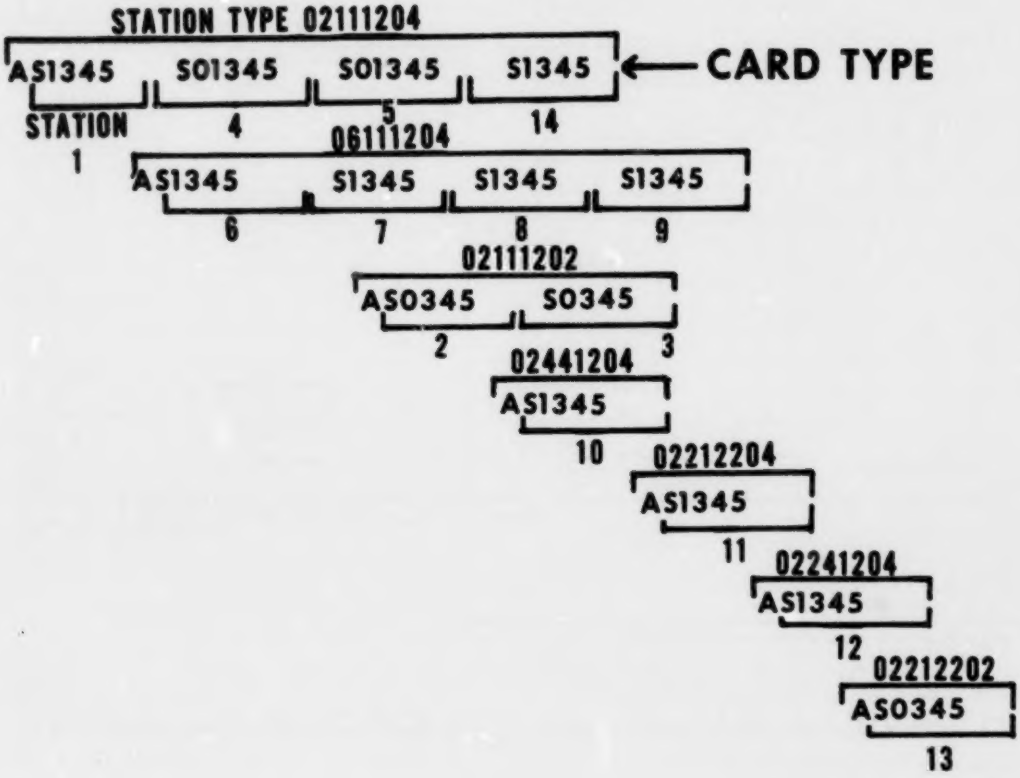
* LEFT JUSTIFY

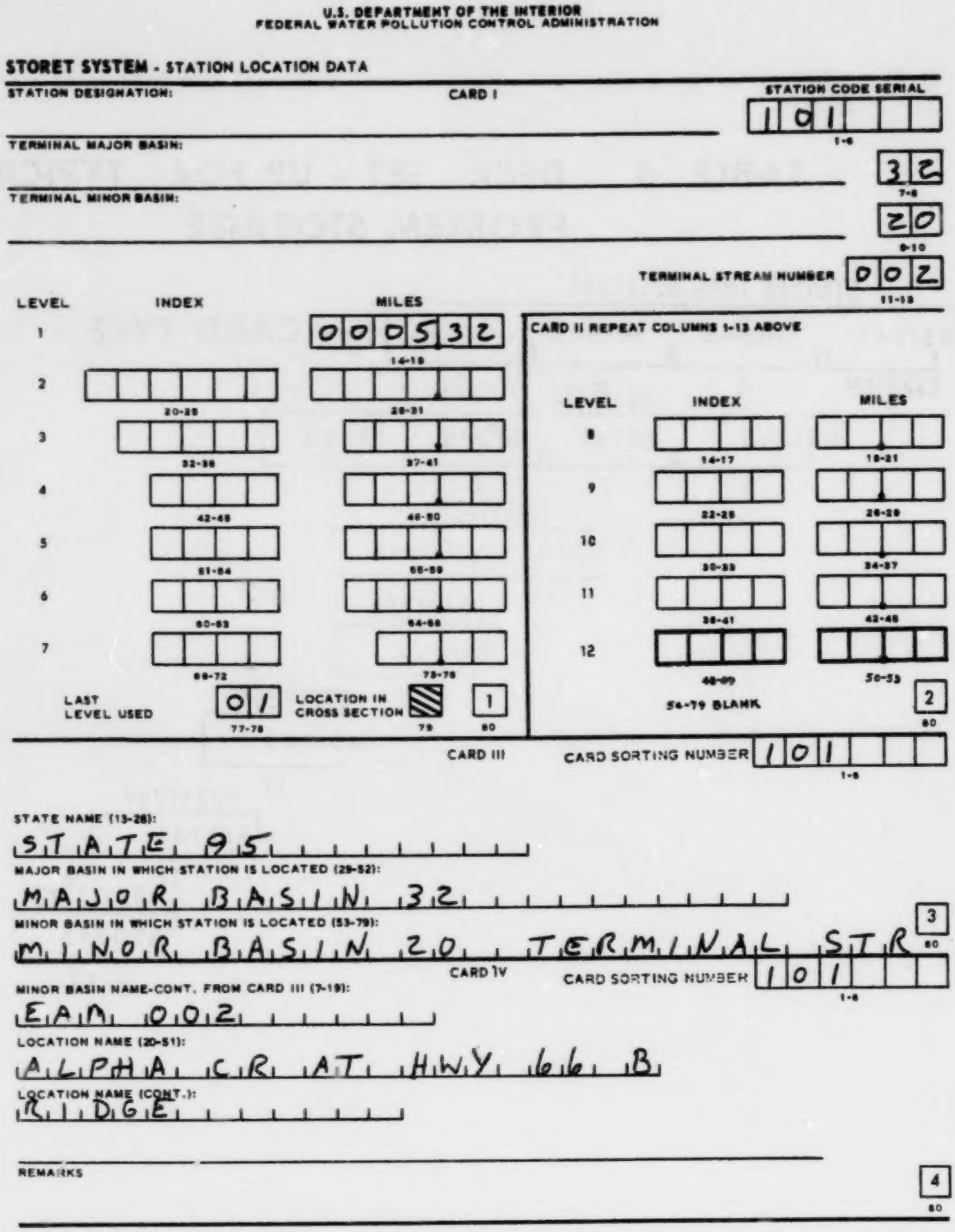
STATE CODE: 9 5 (68 69) COUNTY: (70–72) CITY: (73–77)

N S (78 79) CONTROL CODE S (80)

FIGURE 4

TABLE 5 DECK SET - UP FOR TYPICAL PROBLEM STORAGE





U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET SYSTEM - STATION LOCATION DATA

CARD I

STATION DESIGNATION:

STATION CODE SERIAL (1-6): 101

TERMINAL MAJOR BASIN: (7-8): 32

TERMINAL MINOR BASIN: (9-10): 20

TERMINAL STREAM NUMBER (11-13): 002

LEVEL	INDEX	MILES
1		000532 (14-19)
2	(20-25)	(26-31)
3	(32-36)	(37-41)
4	(42-45)	(46-50)
5	(51-54)	(55-59)
6	(60-63)	(64-68)
7	(69-72)	(73-76)

LAST LEVEL USED (77-78): 01

LOCATION IN CROSS SECTION (79): ▨

(80): 1

CARD II REPEAT COLUMNS 1-13 ABOVE

LEVEL	INDEX	MILES
8	(14-17)	(18-21)
9	(22-25)	(26-29)
10	(30-33)	(34-37)
11	(38-41)	(42-45)
12	(46-49)	(50-53)

54-79 BLANK

(80): 2

CARD III

CARD SORTING NUMBER (1-6): 101

STATE NAME (13-28):
STATE 95

MAJOR BASIN IN WHICH STATION IS LOCATED (29-52):
MAJOR BASIN 32

MINOR BASIN IN WHICH STATION IS LOCATED (53-79):
MINOR BASIN 20 TERMINAL STR

(80): 3

CARD IV

CARD SORTING NUMBER (1-6): 101

MINOR BASIN NAME-CONT. FROM CARD III (7-19):
EAM 002

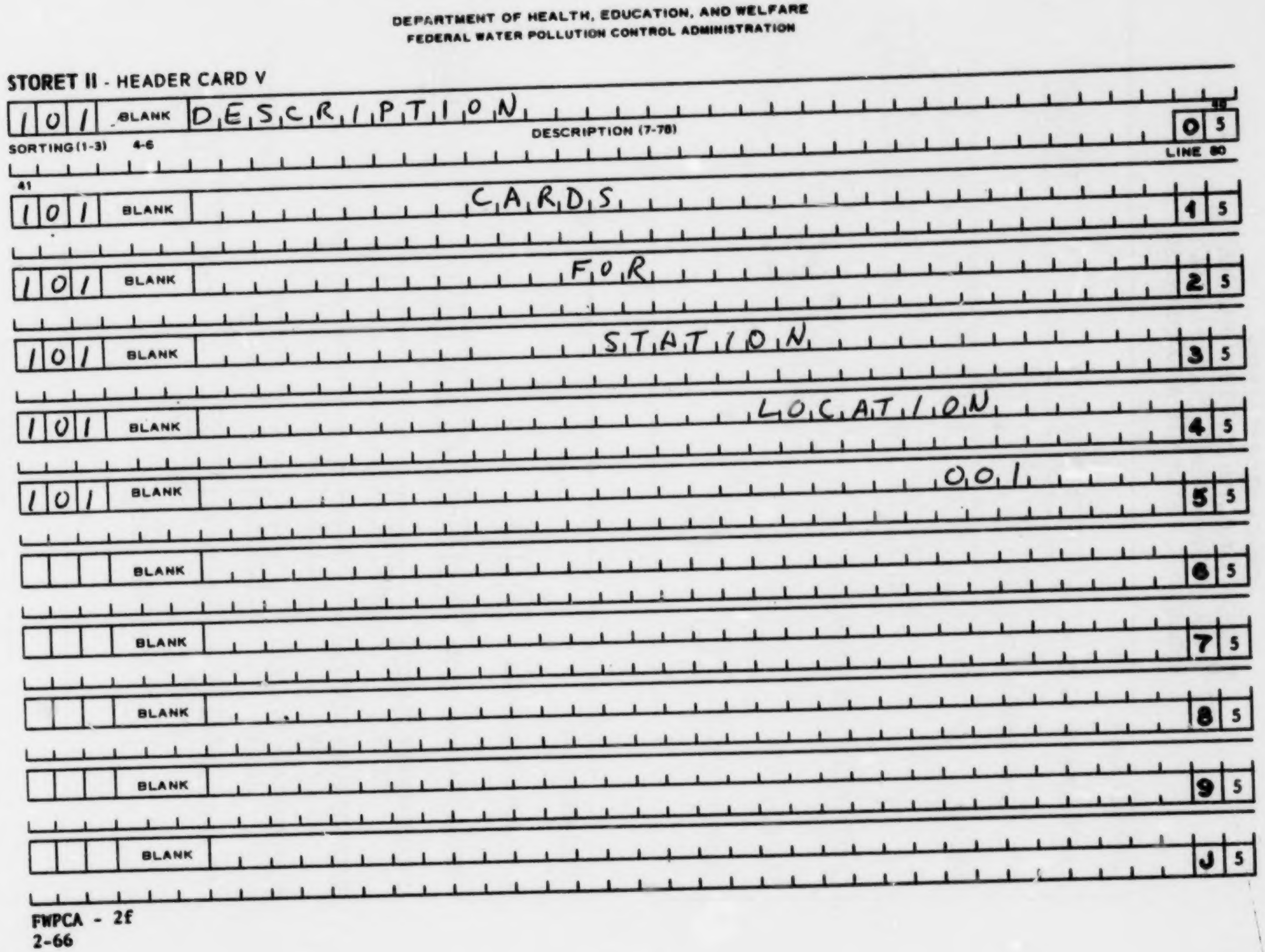
LOCATION NAME (20-51):
ALPHA CR AT HWY 66 B

LOCATION NAME (CONT.):
RIDGE

REMARKS

(80): 4

FIGURE 5



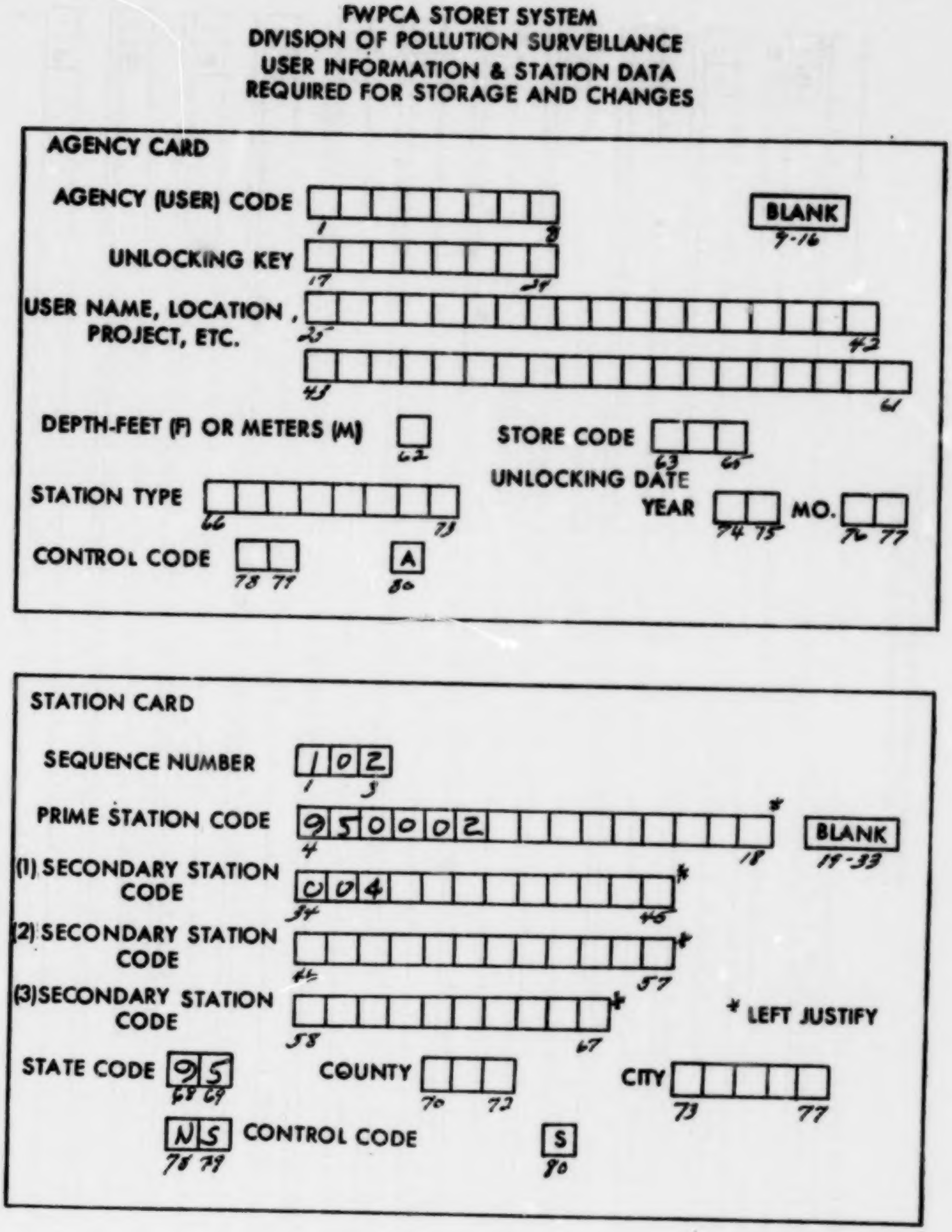
DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - HEADER CARD V

SORTING (1-3)	4-6	DESCRIPTION (7-78)	LINE 80
101	BLANK	DESCRIPTION	0 5
101	BLANK	CARDS	1 5
101	BLANK	FOR	2 5
101	BLANK	STATION	3 5
101	BLANK	LOCATION	4 5
101	BLANK	001	5 5
	BLANK		6 5
	BLANK		7 5
	BLANK		8 5
	BLANK		9 5
	BLANK		J 5

FWPCA - 2f
2-66

FIGURE 6



FWPCA STORET SYSTEM
DIVISION OF POLLUTION SURVEILLANCE
USER INFORMATION & STATION DATA
REQUIRED FOR STORAGE AND CHANGES

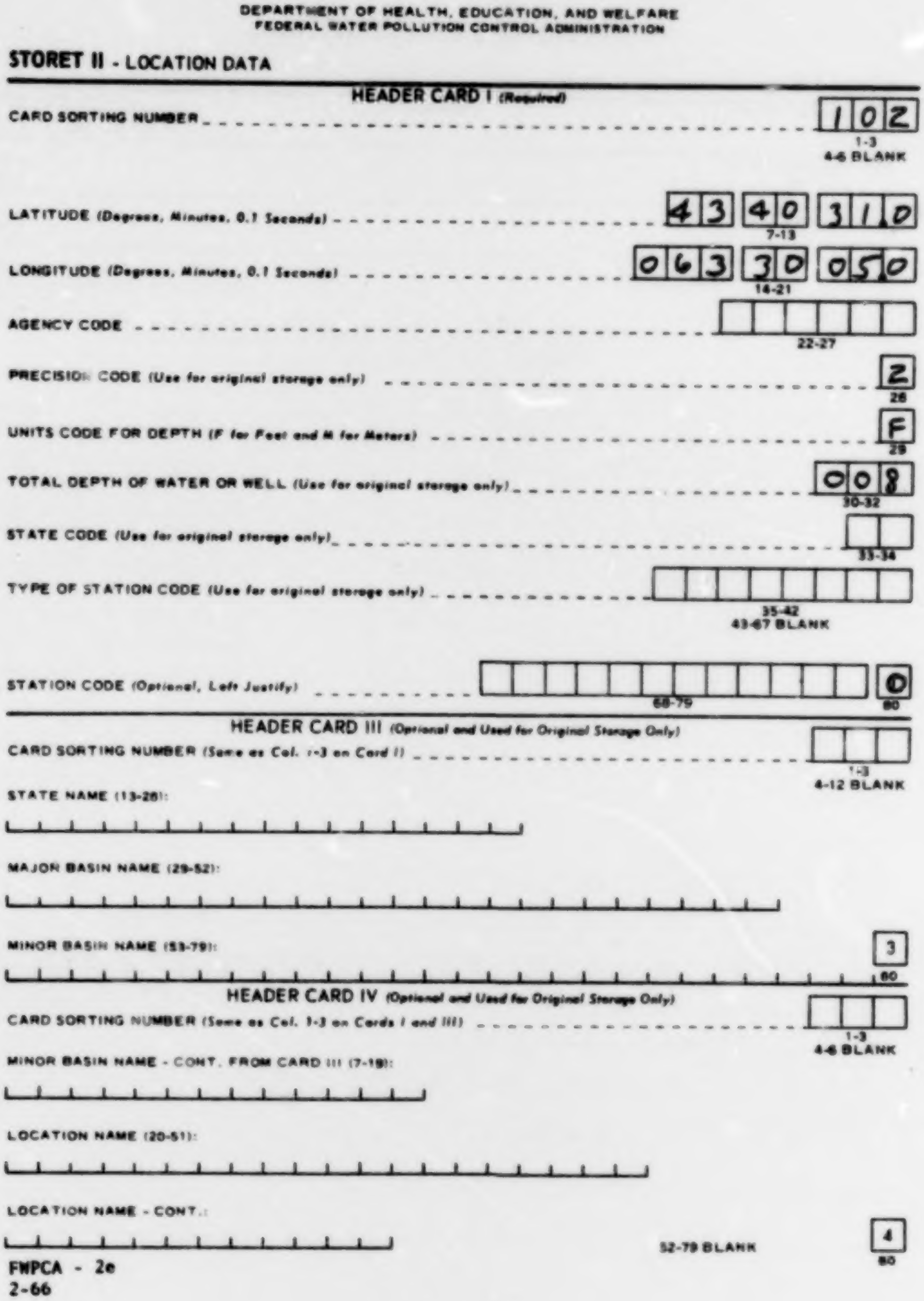
AGENCY CARD

AGENCY (USER) CODE 1 8
BLANK 9-16
UNLOCKING KEY 17 24
USER NAME, LOCATION, PROJECT, ETC. 25 42
43 61
DEPTH-FEET (F) OR METERS (M) 62
STORE CODE 63 65
UNLOCKING DATE
YEAR 74 75 MO. 76 77
STATION TYPE 66 73
CONTROL CODE 78 79 A 80

STATION CARD

SEQUENCE NUMBER 1 0 2
1 3
PRIME STATION CODE 9 5 0 0 0 2 *
4 18
BLANK 19-33
(1) SECONDARY STATION CODE 0 0 4 *
34 45
(2) SECONDARY STATION CODE *
46 57
(3) SECONDARY STATION CODE *
58 67
* LEFT JUSTIFY
STATE CODE 9 5
68 69
COUNTY 70 72
CITY 73 77
N S CONTROL CODE S
78 79 80

FIGURE 7



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - LOCATION DATA

HEADER CARD I *(Required)*

CARD SORTING NUMBER - - - - - - - - - - 1 0 2
1-3
4-6 BLANK

LATITUDE *(Degrees, Minutes, 0.1 Seconds)* - - - - - - - - - - 4 3 4 0 3 1 0
7-13

LONGITUDE *(Degrees, Minutes, 0.1 Seconds)* - - - - - - - - - - 0 6 3 3 0 0 5 0
14-21

AGENCY CODE - - - - - - - - - - ☐☐☐☐☐☐
22-27

PRECISION CODE *(Use for original storage only)* - - - - - - - - - - 2
28

UNITS CODE FOR DEPTH *(F for Feet and M for Meters)* - - - - - - - - - - F
29

TOTAL DEPTH OF WATER OR WELL *(Use for original storage only)* - - - - - - - - - - 0 0 8
30-32

STATE CODE *(Use for original storage only)* - - - - - - - - - - ☐☐
33-34

TYPE OF STATION CODE *(Use for original storage only)* - - - - - - - - - - ☐☐☐☐☐☐☐☐
35-42
43-67 BLANK

STATION CODE *(Optional, Left Justify)* - - - - - - - - - - ☐☐☐☐☐☐☐☐☐☐☐☐ 0
68-79 80

HEADER CARD III *(Optional and Used for Original Storage Only)*

CARD SORTING NUMBER *(Same as Col. 1-3 on Card I)* - - - - - - - - - - ☐☐☐
1-3
4-12 BLANK

STATE NAME (13-28):

MAJOR BASIN NAME (29-52):

MINOR BASIN NAME (53-79): 3
80

HEADER CARD IV *(Optional and Used for Original Storage Only)*

CARD SORTING NUMBER *(Same as Col. 1-3 on Cards I and III)* - - - - - - - - - - ☐☐☐
1-3
4-6 BLANK

MINOR BASIN NAME - CONT. FROM CARD III (7-19):

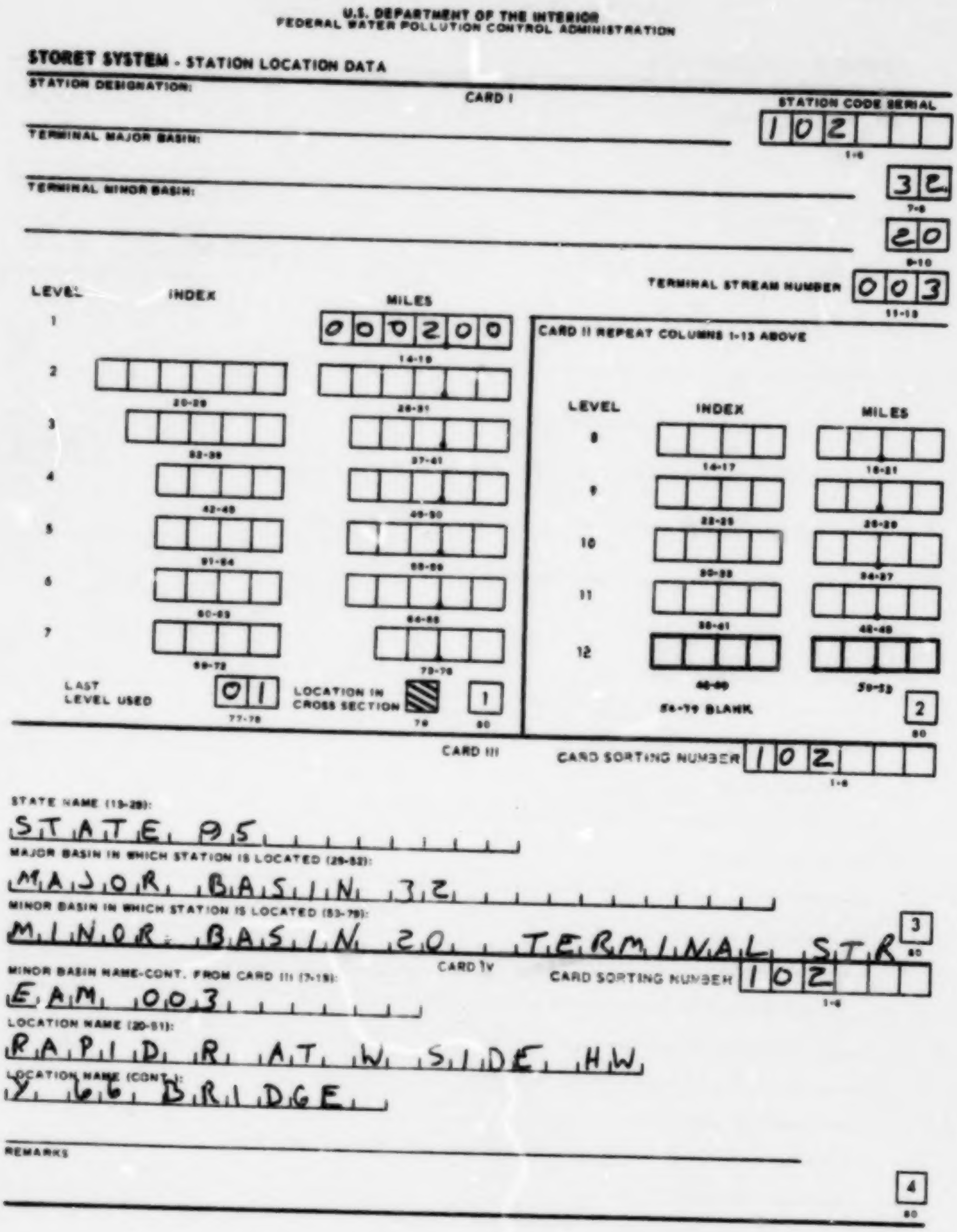
LOCATION NAME (20-51):

LOCATION NAME - CONT.:

52-79 BLANK 4
80

FWPCA - 2e
2-66

FIGURE 8



U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET SYSTEM - STATION LOCATION DATA

STATION DESIGNATION:

CARD I

STATION CODE SERIAL (1-6): 1 0 2

TERMINAL MAJOR BASIN: (7-8): 3 2

TERMINAL MINOR BASIN: (9-10): 2 0

TERMINAL STREAM NUMBER (11-13): 0 0 3

LEVEL	INDEX	MILES
1		0 0 0 2 0 0 (14-19)
2	(20-25)	(26-31)
3	(32-36)	(37-41)
4	(42-45)	(46-50)
5	(51-54)	(55-59)
6	(60-63)	(64-68)
7	(69-72)	(73-76)

LAST LEVEL USED (77-78): 0 1

LOCATION IN CROSS SECTION (79): ▨

(80): 1

CARD II REPEAT COLUMNS 1-13 ABOVE

LEVEL	INDEX	MILES
8	(14-17)	(18-21)
9	(22-25)	(26-29)
10	(30-33)	(34-37)
11	(38-41)	(42-45)
12	(46-49)	(50-53)

54-79 BLANK

(80): 2

CARD III

CARD SORTING NUMBER (1-6): 1 0 2

STATE NAME (13-28): STATE 95

MAJOR BASIN IN WHICH STATION IS LOCATED (29-52): MAJOR BASIN 32

MINOR BASIN IN WHICH STATION IS LOCATED (53-79): MINOR BASIN 20 TERMINAL STR

(80): 3

CARD IV

CARD SORTING NUMBER (1-6): 1 0 2

MINOR BASIN NAME-CONT. FROM CARD III (7-19): EAM 003

LOCATION NAME (20-51): RAPID R AT W SIDE HW

LOCATION NAME (CONT.): Y 66 BRIDGE

REMARKS

(80): 4

FIGURE 9

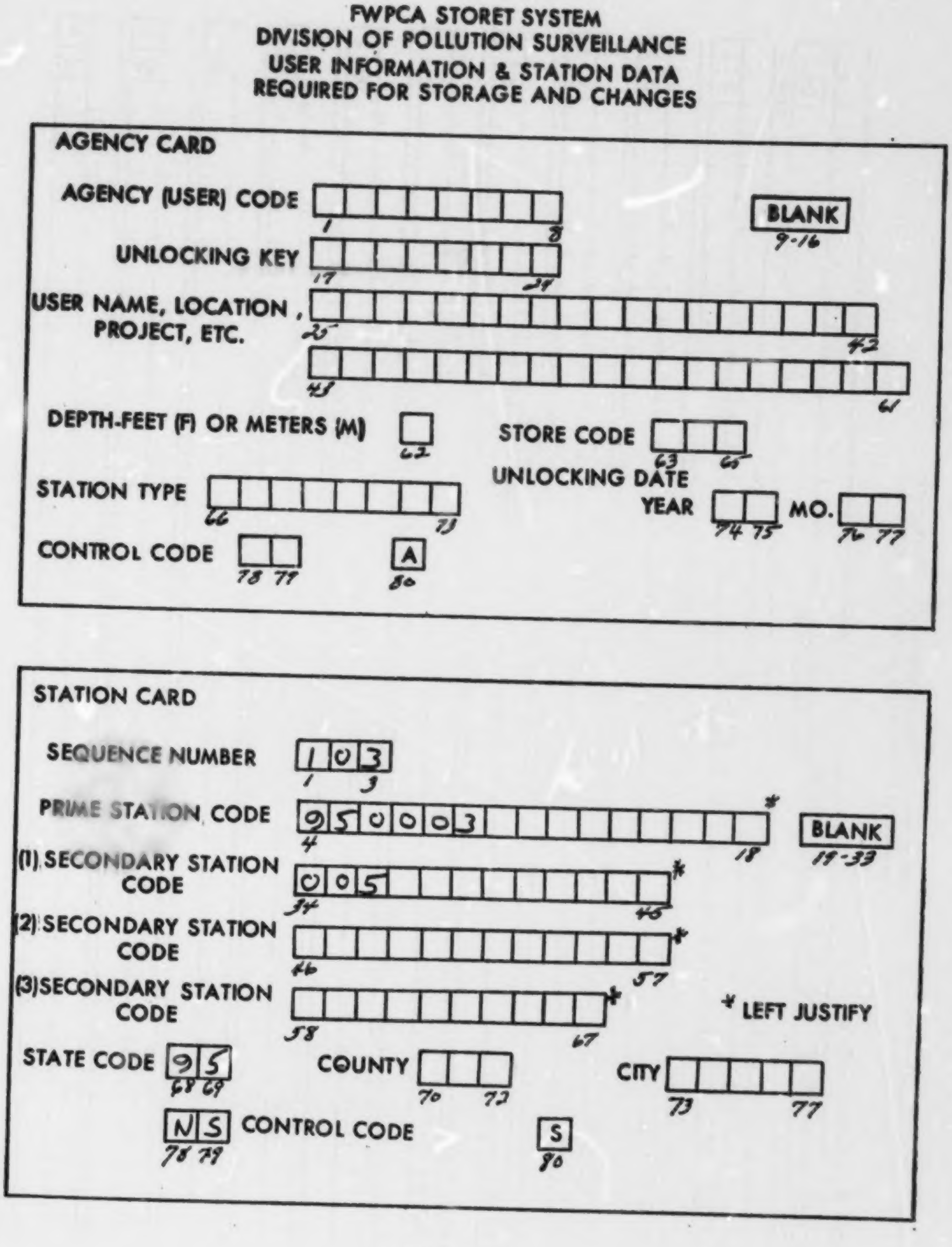
DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - HEADER CARD V

SORTING (1-3)	4-6	DESCRIPTION (7-78)	79	LINE 80
102	BLANK	DESCRIPTION	0	5
102	BLANK	CARDS	1	5
102	BLANK	FOR	2	5
102	BLANK	STATION	3	5
102	BLANK	LOCATION	4	5
102	BLANK	004	5	5
	BLANK		6	5
	BLANK		7	5
	BLANK		8	5
	BLANK		9	5
	BLANK		J	5

FWPCA - 2f
2-66

FIGURE 10



FWPCA STORET SYSTEM
DIVISION OF POLLUTION SURVEILLANCE
USER INFORMATION & STATION DATA
REQUIRED FOR STORAGE AND CHANGES

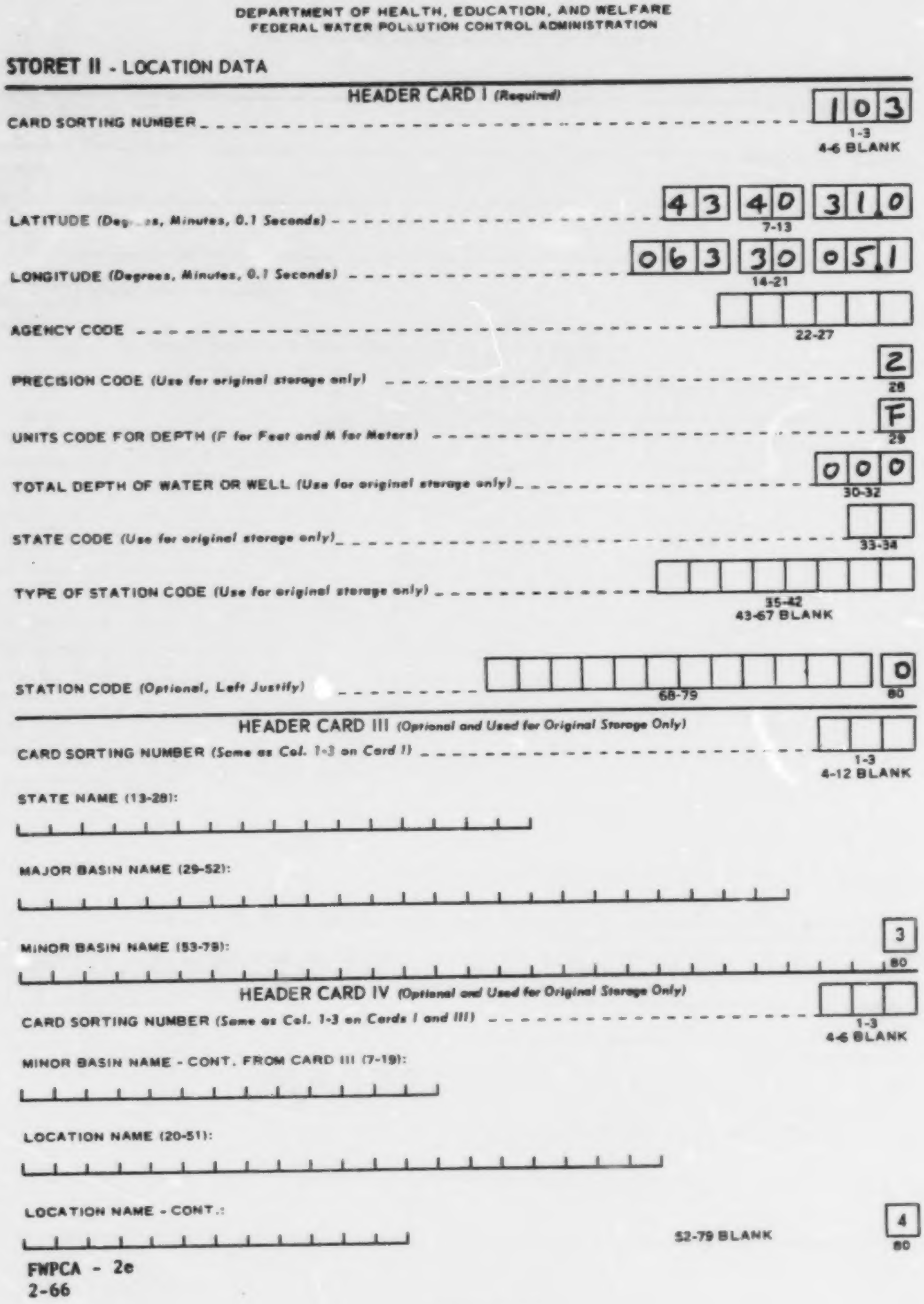
AGENCY CARD

AGENCY (USER) CODE ☐☐☐☐☐☐☐☐ 1–8
BLANK 9-16
UNLOCKING KEY ☐☐☐☐☐☐☐☐ 17–24
USER NAME, LOCATION, PROJECT, ETC. ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐ 25–42
☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐ 43–61
DEPTH-FEET (F) OR METERS (M) ☐ 62
STORE CODE ☐☐☐ 63–65
STATION TYPE ☐☐☐☐☐☐☐☐ 66–73
UNLOCKING DATE
YEAR ☐☐ 74 75
MO. ☐☐ 76 77
CONTROL CODE ☐☐ 78 79
A 80

STATION CARD

SEQUENCE NUMBER 1 0 3 (1–3)
PRIME STATION CODE 9 5 0 0 0 3 ☐☐☐☐☐☐☐☐☐ 4–18 *
BLANK 19-33
(1) SECONDARY STATION CODE 0 0 5 ☐☐☐☐☐☐☐☐☐ 34–45 *
(2) SECONDARY STATION CODE ☐☐☐☐☐☐☐☐☐☐☐☐ 46–57 *
(3) SECONDARY STATION CODE ☐☐☐☐☐☐☐☐☐☐ 58–67 *
* LEFT JUSTIFY
STATE CODE 9 5 68 69
COUNTY ☐☐☐ 70–72
CITY ☐☐☐☐☐ 73–77
N S 78 79 CONTROL CODE
S 80

FIGURE 11



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - LOCATION DATA

HEADER CARD I *(Required)*

CARD SORTING NUMBER: 1 0 3 (1-3; 4-6 BLANK)

LATITUDE *(Degrees, Minutes, 0.1 Seconds)*: 4 3 | 4 0 | 3 1.0 (7-13)

LONGITUDE *(Degrees, Minutes, 0.1 Seconds)*: 0 6 3 | 3 0 | 0 5.1 (14-21)

AGENCY CODE: ☐☐☐☐☐☐ (22-27)

PRECISION CODE *(Use for original storage only)*: 2 (28)

UNITS CODE FOR DEPTH *(F for Feet and M for Meters)*: F (29)

TOTAL DEPTH OF WATER OR WELL *(Use for original storage only)*: 0 0 0 (30-32)

STATE CODE *(Use for original storage only)*: ☐☐ (33-34)

TYPE OF STATION CODE *(Use for original storage only)*: ☐☐☐☐☐☐☐☐ (35-42; 43-67 BLANK)

STATION CODE *(Optional, Left Justify)*: ☐☐☐☐☐☐☐☐☐☐☐☐ (68-79) 0 (80)

HEADER CARD III *(Optional and Used for Original Storage Only)*

CARD SORTING NUMBER *(Same as Col. 1-3 on Card I)*: ☐☐☐ (1-3; 4-12 BLANK)

STATE NAME (13-28):

MAJOR BASIN NAME (29-52):

MINOR BASIN NAME (53-79): 3 (80)

HEADER CARD IV *(Optional and Used for Original Storage Only)*

CARD SORTING NUMBER *(Same as Col. 1-3 on Cards I and III)*: ☐☐☐ (1-3; 4-6 BLANK)

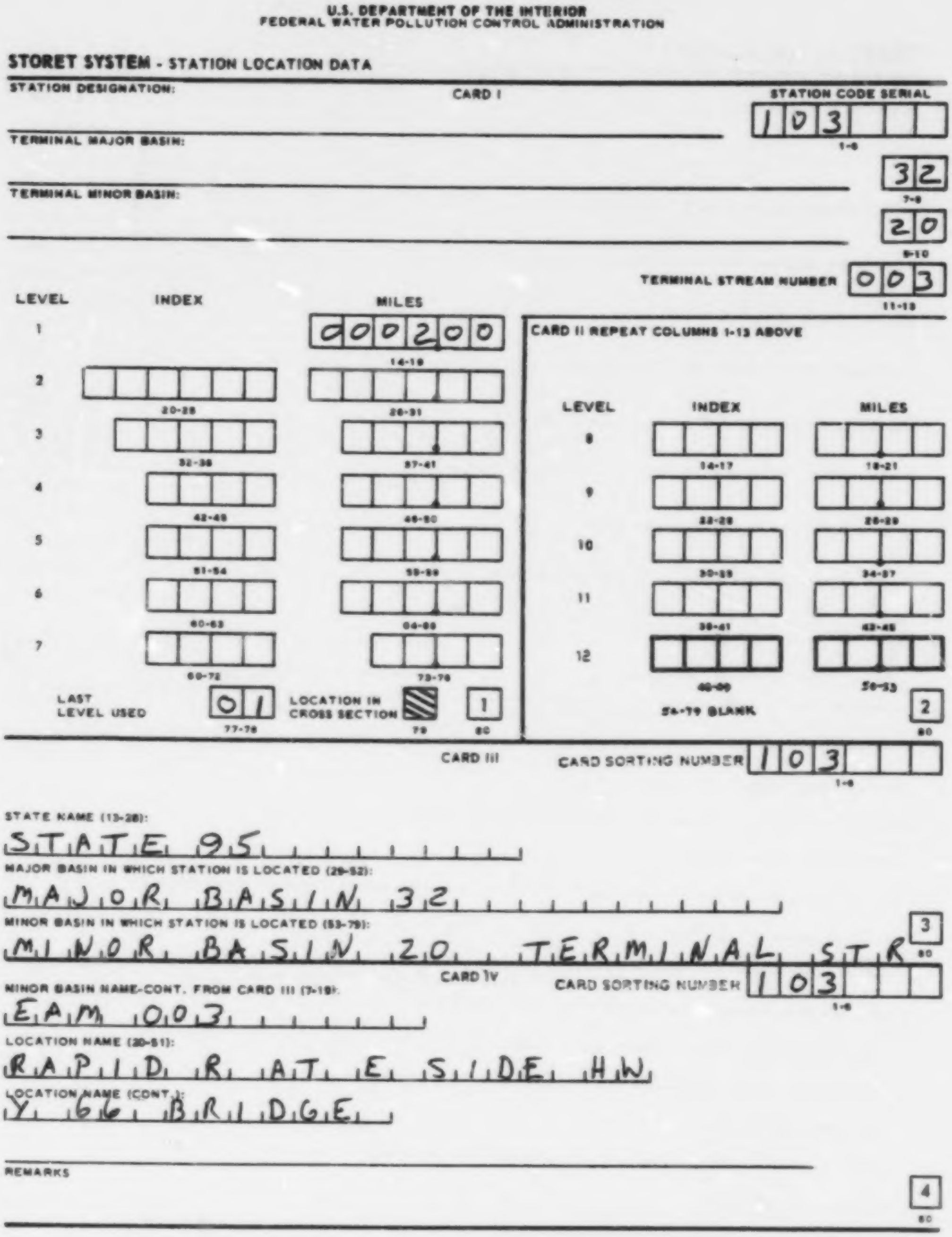
MINOR BASIN NAME - CONT. FROM CARD III (7-19):

LOCATION NAME (20-51):

LOCATION NAME - CONT.: 52-79 BLANK 4 (80)

FWPCA - 2e
2-66

FIGURE 12



U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET SYSTEM - STATION LOCATION DATA

CARD I

STATION DESIGNATION:

STATION CODE SERIAL (1-6): 1 0 3

TERMINAL MAJOR BASIN: (7-8) 3 2

TERMINAL MINOR BASIN: (9-10) 2 0

TERMINAL STREAM NUMBER (11-13): 0 0 3

LEVEL	INDEX	MILES
1		0 0 0 2 0 0 (14-19)
2	(20-25)	(26-31)
3	(32-36)	(37-41)
4	(42-45)	(46-50)
5	(51-54)	(55-59)
6	(60-63)	(64-68)
7	(69-72)	(73-76)

LAST LEVEL USED (77-78): 0 1

LOCATION IN CROSS SECTION (79): ▨

1 (80)

CARD II REPEAT COLUMNS 1-13 ABOVE

LEVEL	INDEX	MILES
8	(14-17)	(18-21)
9	(22-25)	(26-29)
10	(30-33)	(34-37)
11	(38-41)	(42-45)
12	(46-49)	(50-53)

54-79 BLANK

2 (80)

CARD III

CARD SORTING NUMBER (1-6): 1 0 3

STATE NAME (13-28):
STATE 95

MAJOR BASIN IN WHICH STATION IS LOCATED (29-52):
MAJOR BASIN 32

MINOR BASIN IN WHICH STATION IS LOCATED (53-79):
MINOR BASIN 20 TERMINAL STR

3 (80)

CARD IV

CARD SORTING NUMBER (1-6): 1 0 3

MINOR BASIN NAME-CONT. FROM CARD III (7-19):
EAM 003

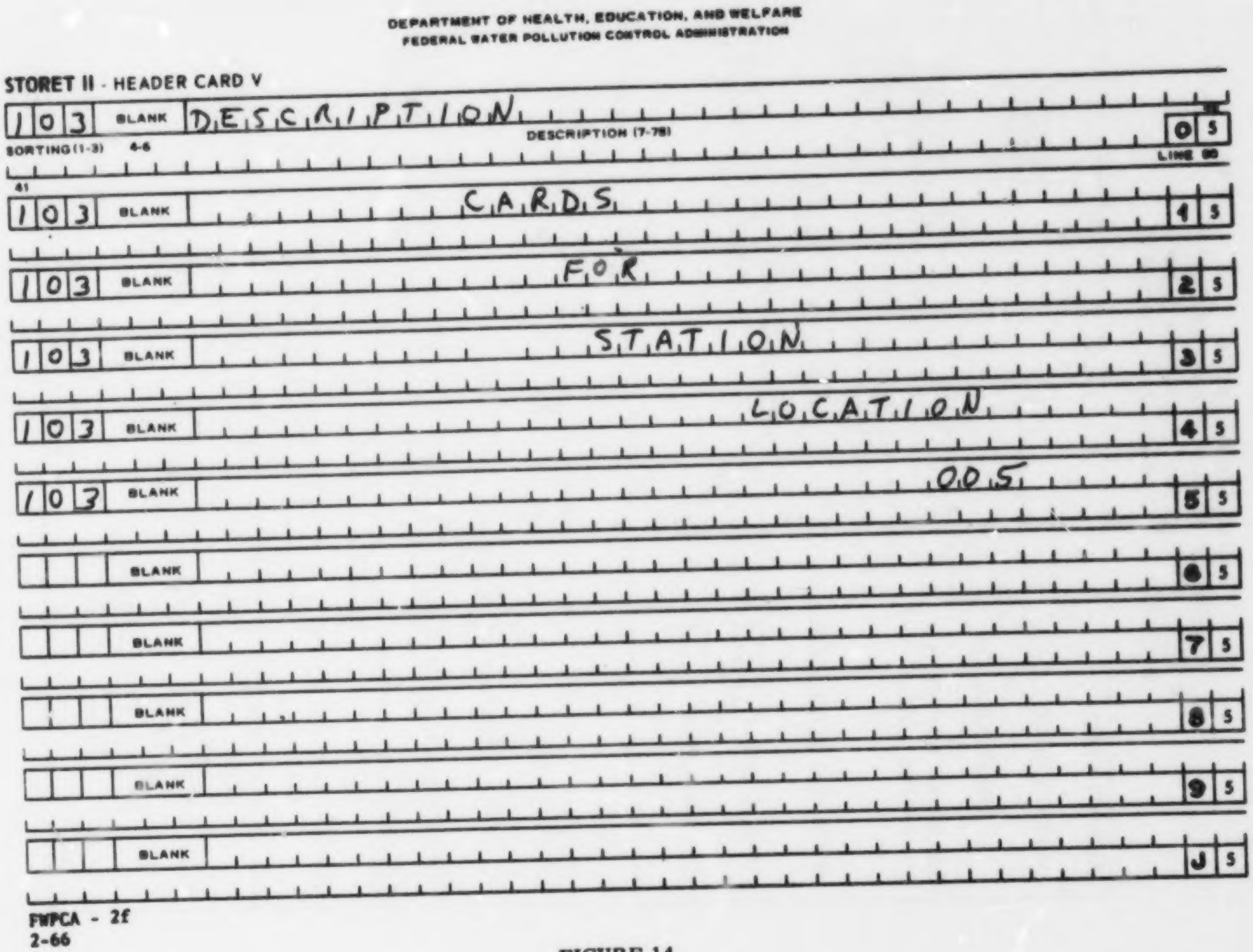
LOCATION NAME (20-51):
RAPID RAT E SIDE HW

LOCATION NAME (CONT.):
Y 66 BRIDGE

REMARKS

4 (80)

FIGURE 13



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

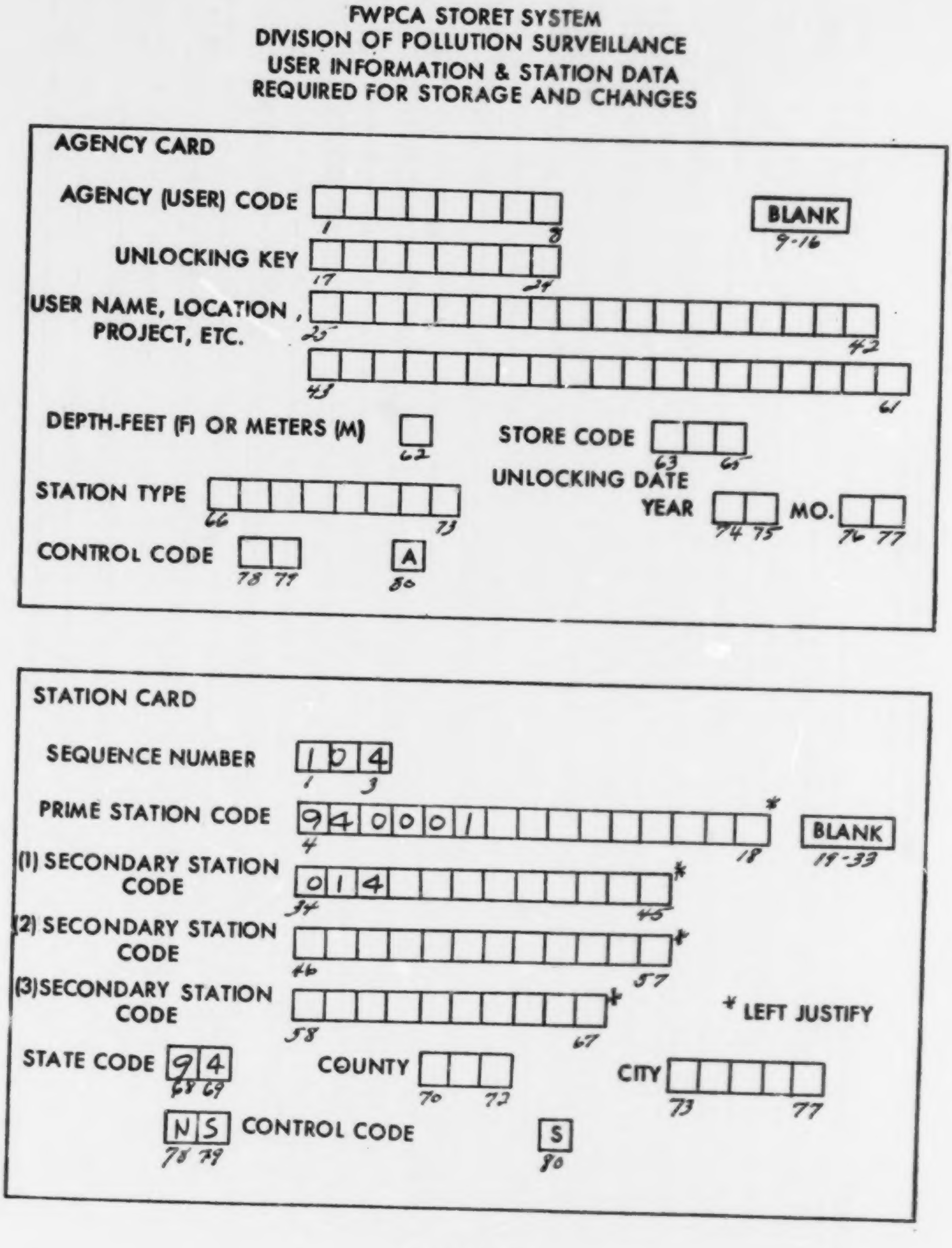
STORET II - HEADER CARD V

SORTING (1-3)	4-6	DESCRIPTION (7-78)	LINE 80
103	BLANK	DESCRIPTION	0 5
103	BLANK	CARDS	1 5
103	BLANK	FOR	2 5
103	BLANK	STATION	3 5
103	BLANK	LOCATION	4 5
103	BLANK	005	5 5
	BLANK		6 5
	BLANK		7 5
	BLANK		8 5
	BLANK		9 5
	BLANK		J 5

41

FWPCA - 2f
2-66

FIGURE 14



FWPCA STORET SYSTEM
DIVISION OF POLLUTION SURVEILLANCE
USER INFORMATION & STATION DATA
REQUIRED FOR STORAGE AND CHANGES

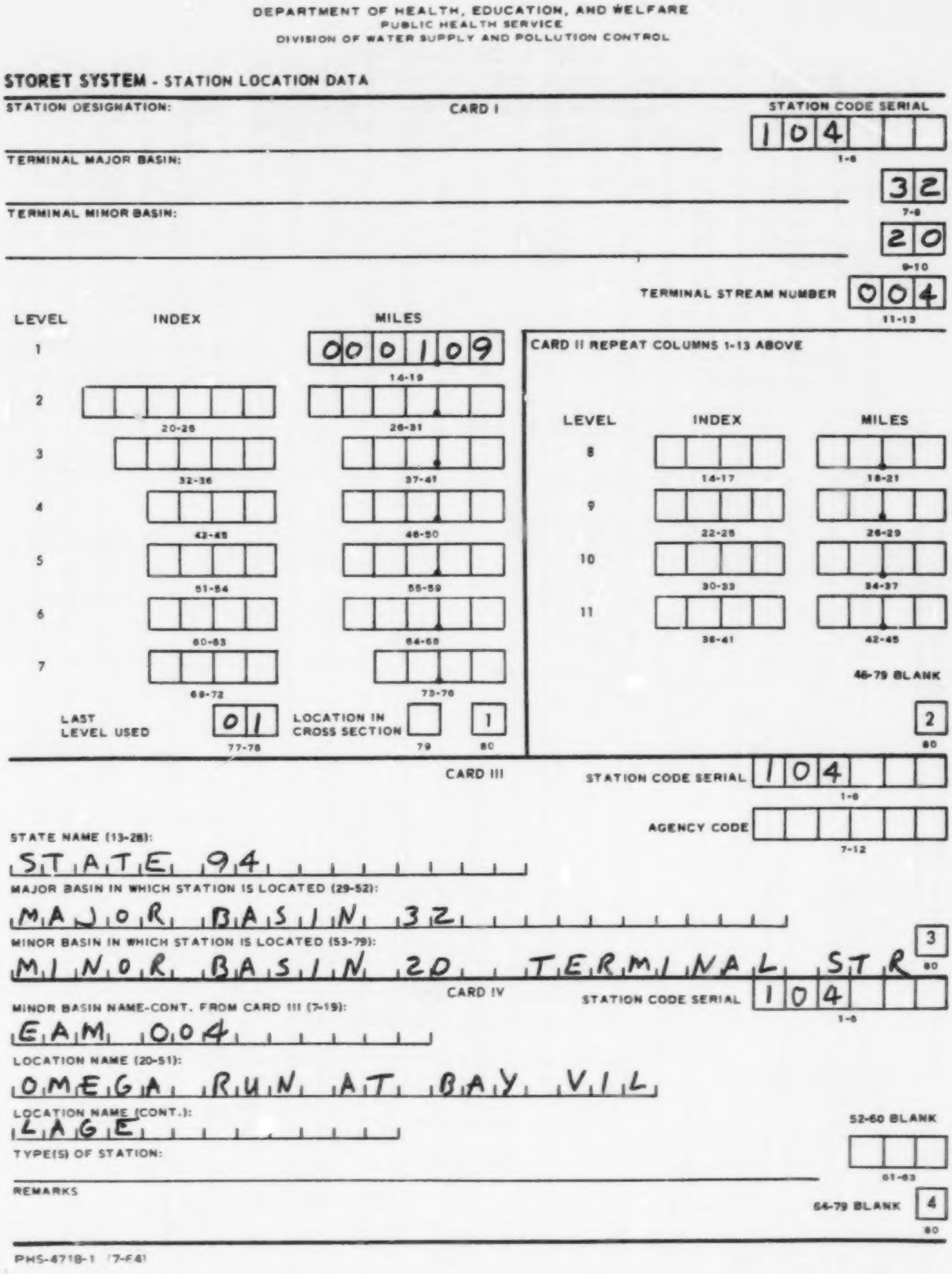
AGENCY CARD

AGENCY (USER) CODE ☐☐☐☐☐☐☐☐ 1 8 — BLANK 9-16
UNLOCKING KEY ☐☐☐☐☐☐☐☐ 17 24
USER NAME, LOCATION, PROJECT, ETC. ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐ 25 42
☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐ 43 61
DEPTH-FEET (F) OR METERS (M) ☐ 62
STORE CODE ☐☐☐ 63 65
STATION TYPE ☐☐☐☐☐☐☐☐ 66 73
UNLOCKING DATE YEAR ☐☐ 74 75 MO. ☐☐ 76 77
CONTROL CODE ☐☐ 78 79 — A 80

STATION CARD

SEQUENCE NUMBER 1 0 4 — 1 3
PRIME STATION CODE 9 4 0 0 0 1 ☐☐☐☐☐☐☐☐☐* — 4 18 — BLANK 19-33
(1) SECONDARY STATION CODE 0 1 4 ☐☐☐☐☐☐☐☐☐* — 34 45
(2) SECONDARY STATION CODE ☐☐☐☐☐☐☐☐☐☐☐☐* — 46 57
(3) SECONDARY STATION CODE ☐☐☐☐☐☐☐☐☐☐* — 58 67
* LEFT JUSTIFY
STATE CODE 9 4 — 68 69
COUNTY ☐☐☐ 70 72
CITY ☐☐☐☐☐ 73 77
N S — 78 79 CONTROL CODE S — 80

FIGURE 15



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
DIVISION OF WATER SUPPLY AND POLLUTION CONTROL

STORET SYSTEM - STATION LOCATION DATA

CARD I

STATION DESIGNATION:

STATION CODE SERIAL (1-6): 104

TERMINAL MAJOR BASIN: (7-8) 32

TERMINAL MINOR BASIN: (9-10) 20

TERMINAL STREAM NUMBER (11-13): 004

LEVEL	INDEX	MILES
1		000109 (14-19)
2	(20-25)	(26-31)
3	(32-36)	(37-41)
4	(42-45)	(46-50)
5	(51-54)	(55-59)
6	(60-63)	(64-68)
7	(69-72)	(73-76)

LAST LEVEL USED (77-78): 01
LOCATION IN CROSS SECTION (79):
(80): 1

CARD II REPEAT COLUMNS 1-13 ABOVE

LEVEL	INDEX	MILES
8	(14-17)	(18-21)
9	(22-25)	(26-29)
10	(30-33)	(34-37)
11	(38-41)	(42-45)

46-79 BLANK
(80): 2

CARD III

STATION CODE SERIAL (1-6): 104

AGENCY CODE (7-12):

STATE NAME (13-28):
STATE 94

MAJOR BASIN IN WHICH STATION IS LOCATED (29-52):
MAJOR BASIN 32

MINOR BASIN IN WHICH STATION IS LOCATED (53-79):
MINOR BASIN 20 TERMINAL STR
(80): 3

CARD IV

STATION CODE SERIAL (1-6): 104

MINOR BASIN NAME-CONT. FROM CARD III (7-19):
EAM 004

LOCATION NAME (20-51):
OMEGA RUN AT BAY VIL

LOCATION NAME (CONT.):
LAGE

52-60 BLANK

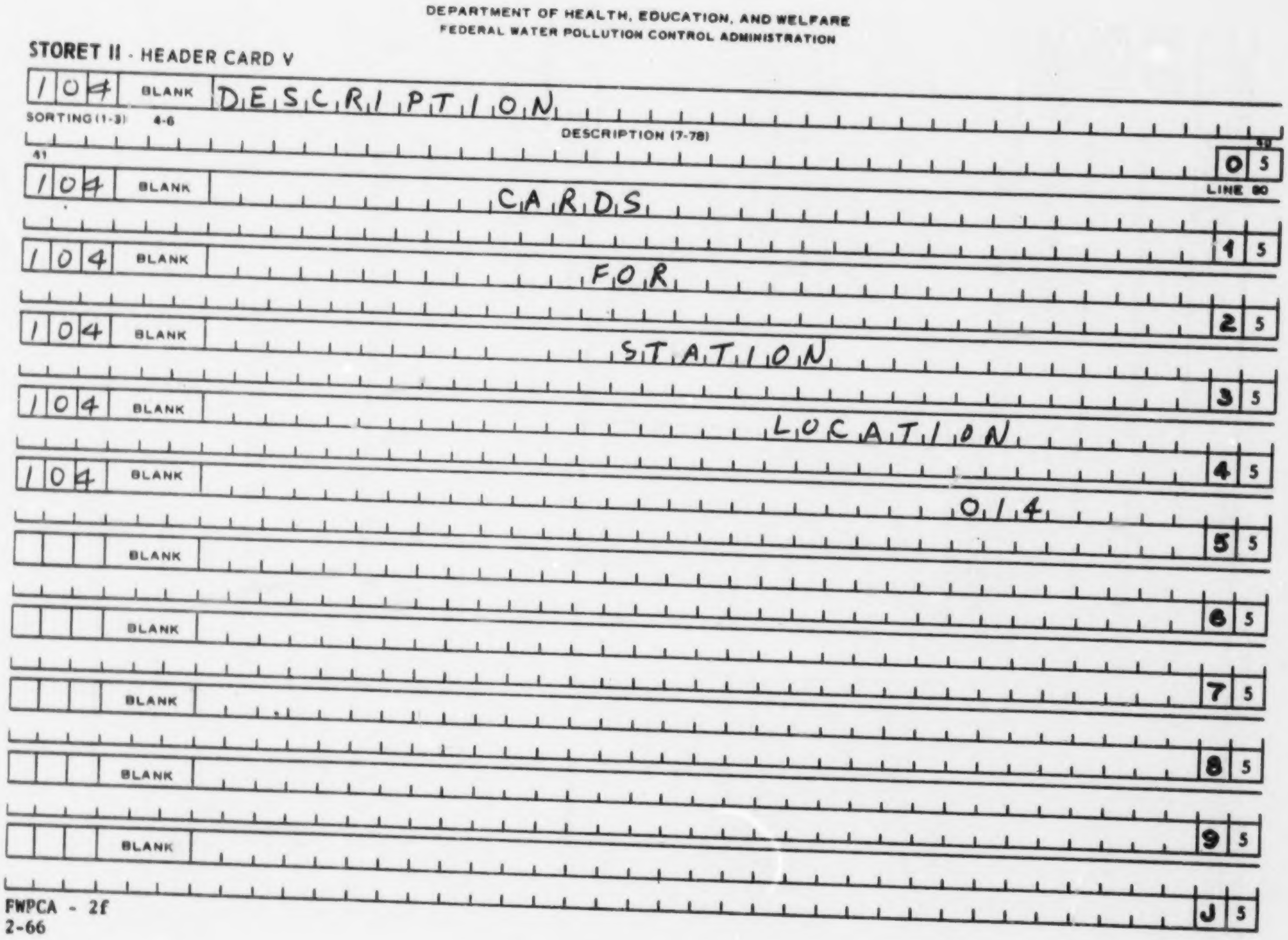
TYPE(S) OF STATION: (61-63)

REMARKS

64-79 BLANK
(80): 4

PHS-4718-1 (7-64)

FIGURE 16



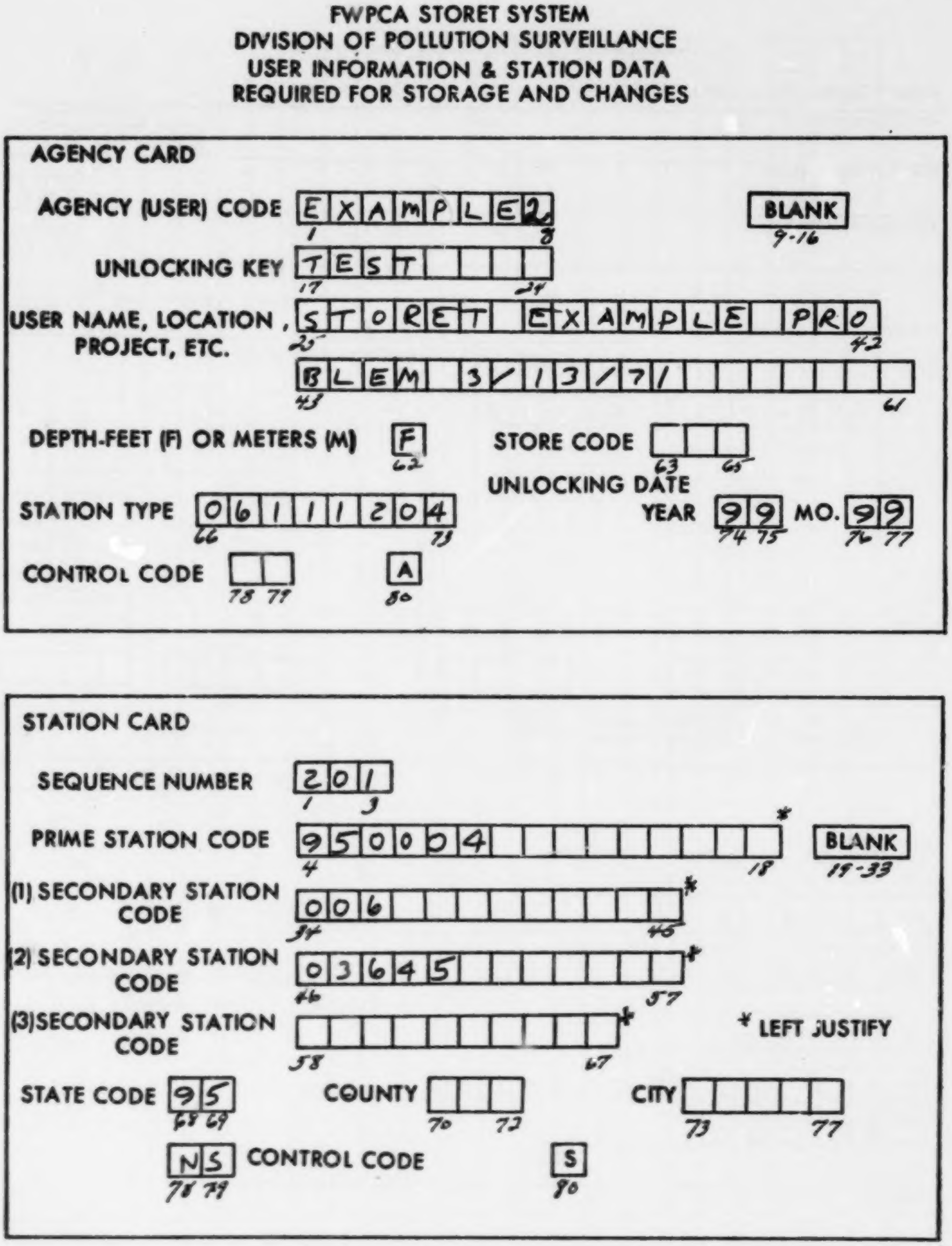
DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - HEADER CARD V

SORTING (1-3)	4-6	DESCRIPTION (7-78)	LINE 80
104	BLANK	DESCRIPTION	0 5
104	BLANK	CARDS	1 5
104	BLANK	FOR	2 5
104	BLANK	STATION	3 5
104	BLANK	LOCATION	4 5
104	BLANK	014	5 5
	BLANK		6 5
	BLANK		7 5
	BLANK		8 5
	BLANK		9 5
	BLANK		J 5

FWPCA - 2f
2-66

FIGURE 17



FWPCA STORET SYSTEM
DIVISION OF POLLUTION SURVEILLANCE
USER INFORMATION & STATION DATA
REQUIRED FOR STORAGE AND CHANGES

AGENCY CARD

AGENCY (USER) CODE: EXAMPLE2 (1–8) BLANK (9-16)

UNLOCKING KEY: TEST (17–24)

USER NAME, LOCATION, PROJECT, ETC.: STORET EXAMPLE PRO (25–42)
BLEM 3/13/71 (43–61)

DEPTH-FEET (F) OR METERS (M): F (62)

STORE CODE: (63–65)

STATION TYPE: 06111204 (66–73)

UNLOCKING DATE YEAR: 99 (74 75) MO.: 99 (76 77)

CONTROL CODE: (78 79) A (80)

STATION CARD

SEQUENCE NUMBER: 201 (1–3)

PRIME STATION CODE: 950004 (4–18)* BLANK (19-33)

(1) SECONDARY STATION CODE: 006 (34–45)*

(2) SECONDARY STATION CODE: 03645 (46–57)*

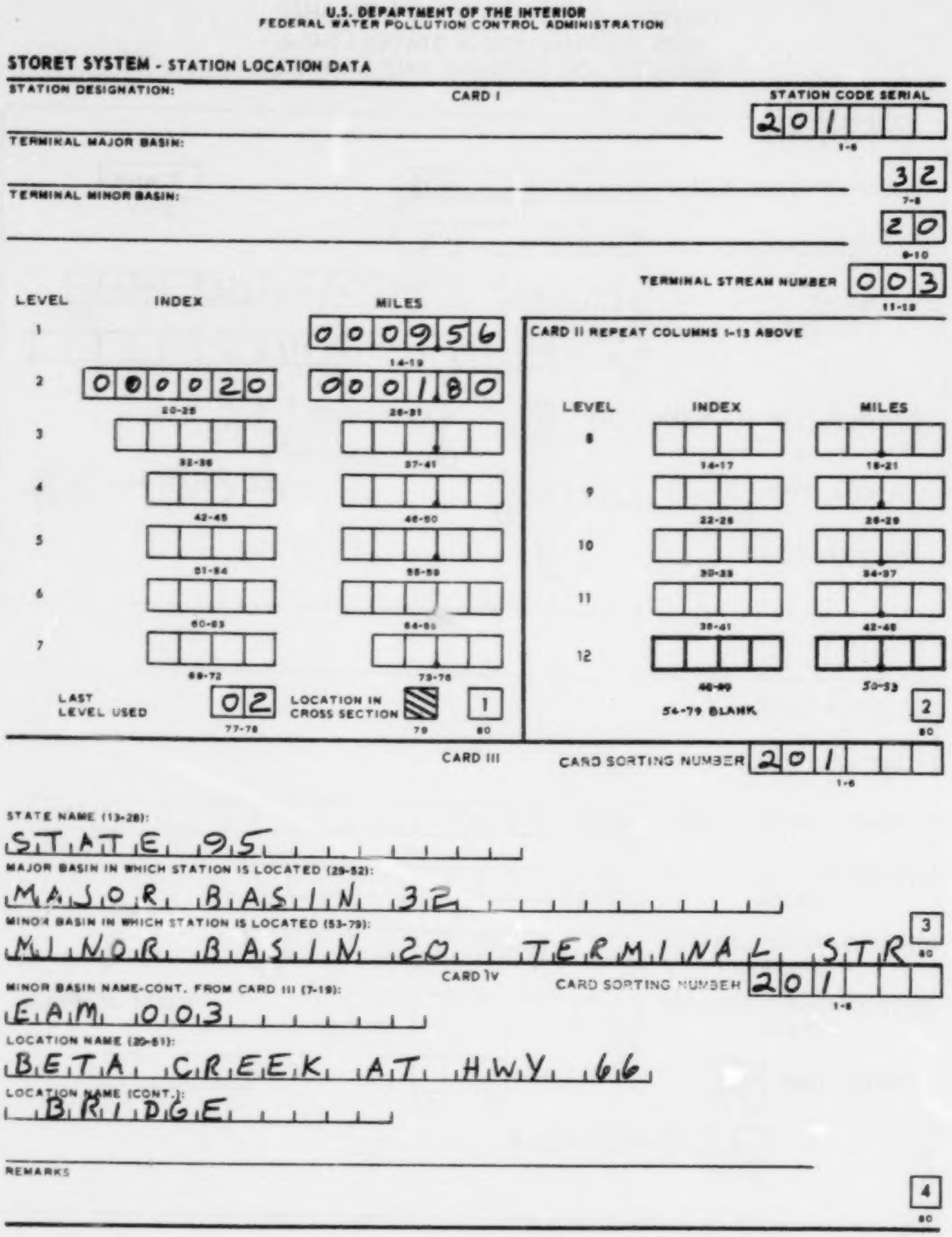
(3) SECONDARY STATION CODE: (58–67)*

* LEFT JUSTIFY

STATE CODE: 95 (68 69) COUNTY: (70–72) CITY: (73–77)

NS (78 79) CONTROL CODE: S (80)

FIGURE 18



U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET SYSTEM - STATION LOCATION DATA

CARD I

STATION DESIGNATION:

STATION CODE SERIAL 2 0 1 (1-6)

TERMINAL MAJOR BASIN: 3 2 (7-8)

TERMINAL MINOR BASIN: 2 0 (9-10)

TERMINAL STREAM NUMBER 0 0 3 (11-13)

LEVEL	INDEX	MILES
1		0 0 0 9 5 6 (14-19)
2	0 0 0 0 2 0 (20-25)	0 0 0 1 8 0 (26-31)
3	(32-36)	(37-41)
4	(42-45)	(46-50)
5	(51-54)	(55-59)
6	(60-63)	(64-68)
7	(69-72)	(73-76)

LAST LEVEL USED 0 2 (77-78)

LOCATION IN CROSS SECTION ▨ (79)

1 (80)

CARD II REPEAT COLUMNS 1-13 ABOVE

LEVEL	INDEX	MILES
8	(14-17)	(18-21)
9	(22-25)	(26-29)
10	(30-33)	(34-37)
11	(38-41)	(42-45)
12	(46-49)	(50-53)

54-79 BLANK

2 (80)

CARD III

CARD SORTING NUMBER 2 0 1 (1-6)

STATE NAME (13-28):
STATE 95

MAJOR BASIN IN WHICH STATION IS LOCATED (29-52):
MAJOR BASIN 32

MINOR BASIN IN WHICH STATION IS LOCATED (53-79):
MINOR BASIN 20 TERMINAL STR

3 (80)

CARD IV

CARD SORTING NUMBER 2 0 1 (1-6)

MINOR BASIN NAME-CONT. FROM CARD III (7-19):
EAM 003

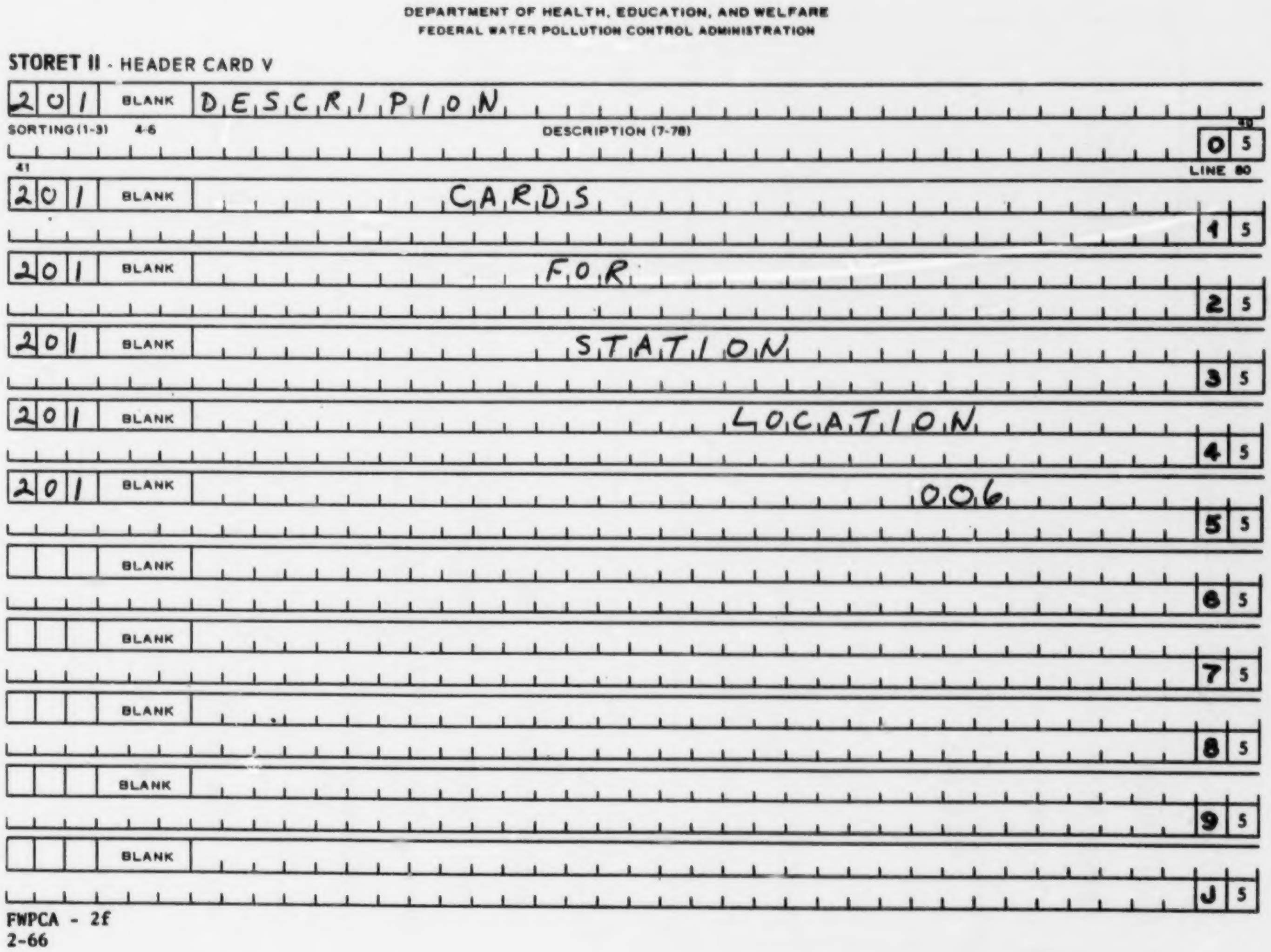
LOCATION NAME (20-51):
BETA CREEK AT HWY 66

LOCATION NAME (CONT.):
BRIDGE

REMARKS

4 (80)

FIGURE 19



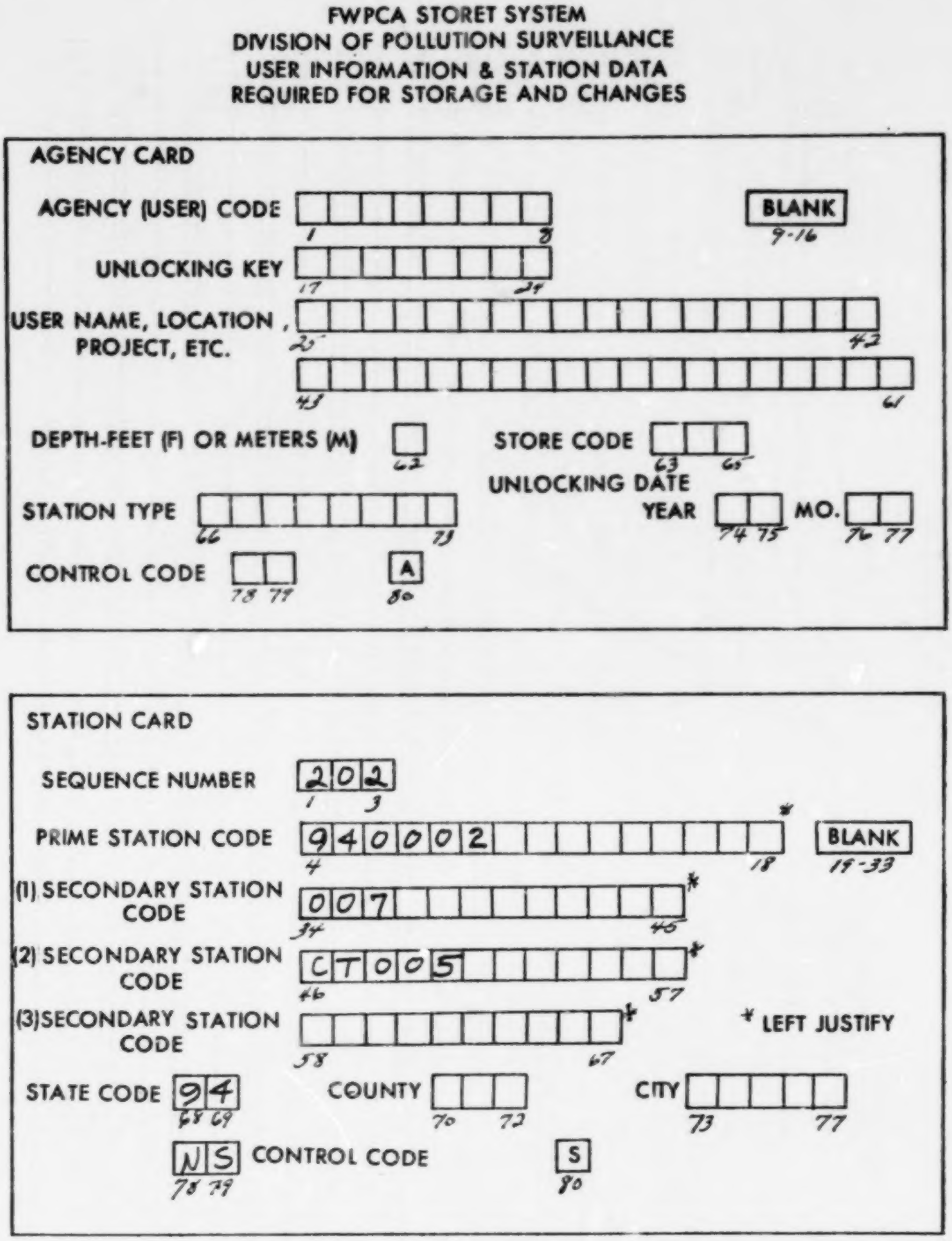
DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - HEADER CARD V

SORTING (1-3)	4-6	DESCRIPTION (7-78)	LINE 80
201	BLANK	DESCRIPION	0 5
201	BLANK	CARDS	1 5
201	BLANK	FOR	2 5
201	BLANK	STATION	3 5
201	BLANK	LOCATION	4 5
201	BLANK	006	5 5
	BLANK		6 5
	BLANK		7 5
	BLANK		8 5
	BLANK		9 5
	BLANK		J 5

FWPCA - 2f
2-66

FIGURE 20



FWPCA STORET SYSTEM
DIVISION OF POLLUTION SURVEILLANCE
USER INFORMATION & STATION DATA
REQUIRED FOR STORAGE AND CHANGES

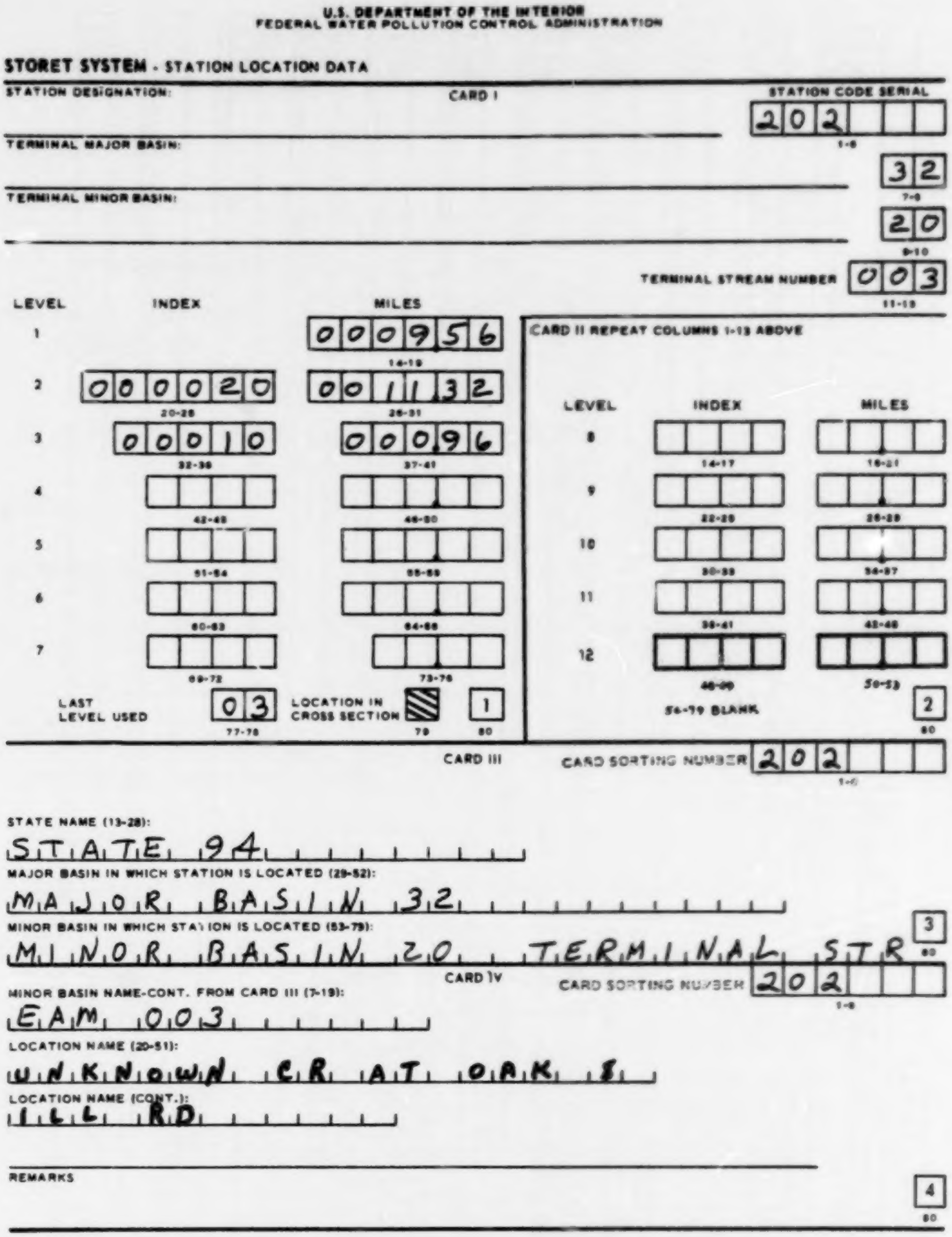
AGENCY CARD

AGENCY (USER) CODE ☐☐☐☐☐☐☐☐ 1 8 BLANK 9-16
UNLOCKING KEY ☐☐☐☐☐☐☐☐ 17 24
USER NAME, LOCATION, PROJECT, ETC. ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐ 25 42
☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐ 43 61
DEPTH-FEET (F) OR METERS (M) ☐ 62
STORE CODE ☐☐☐ 63 65
UNLOCKING DATE
YEAR ☐☐ 74 75 MO. ☐☐ 76 77
STATION TYPE ☐☐☐☐☐☐☐☐ 66 73
CONTROL CODE ☐☐ 78 79 A 80

STATION CARD

SEQUENCE NUMBER 2 0 2 1 3
PRIME STATION CODE 9 4 0 0 0 2 4 18* BLANK 19-33
(1) SECONDARY STATION CODE 0 0 7 34 45*
(2) SECONDARY STATION CODE C T 0 0 5 46 57*
(3) SECONDARY STATION CODE ☐☐☐☐☐☐☐☐☐☐ 58 67*
* LEFT JUSTIFY
STATE CODE 9 4 68 69
COUNTY ☐☐☐ 70 72
CITY ☐☐☐☐☐ 73 77
N S 78 79 CONTROL CODE S 80

FIGURE 21



U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET SYSTEM - STATION LOCATION DATA

CARD I

STATION DESIGNATION:

STATION CODE SERIAL (1-6): 202

TERMINAL MAJOR BASIN: (7-8) 32

TERMINAL MINOR BASIN: (9-10) 20

TERMINAL STREAM NUMBER (11-13): 003

LEVEL	INDEX	MILES
1		000956 (14-19)
2	000020 (20-25)	001132 (26-31)
3	00010 (32-36)	00096 (37-41)
4	(42-45)	(46-50)
5	(51-54)	(55-59)
6	(60-63)	(64-68)
7	(69-72)	(73-76)

LAST LEVEL USED (77-78): 03

LOCATION IN CROSS SECTION (79): ▨

(80) 1

CARD II REPEAT COLUMNS 1-13 ABOVE

LEVEL	INDEX	MILES
8	(14-17)	(18-21)
9	(22-25)	(26-29)
10	(30-33)	(34-37)
11	(38-41)	(42-45)
12	(46-49)	(50-53)

54-79 BLANK

(80) 2

CARD III

CARD SORTING NUMBER (1-6): 202

STATE NAME (13-28):
STATE 94

MAJOR BASIN IN WHICH STATION IS LOCATED (29-52):
MAJOR BASIN 32

MINOR BASIN IN WHICH STATION IS LOCATED (53-79):
MINOR BASIN 20 TERMINAL STR

(80) 3

CARD IV

CARD SORTING NUMBER (1-6): 202

MINOR BASIN NAME-CONT. FROM CARD III (7-19):
EAM 003

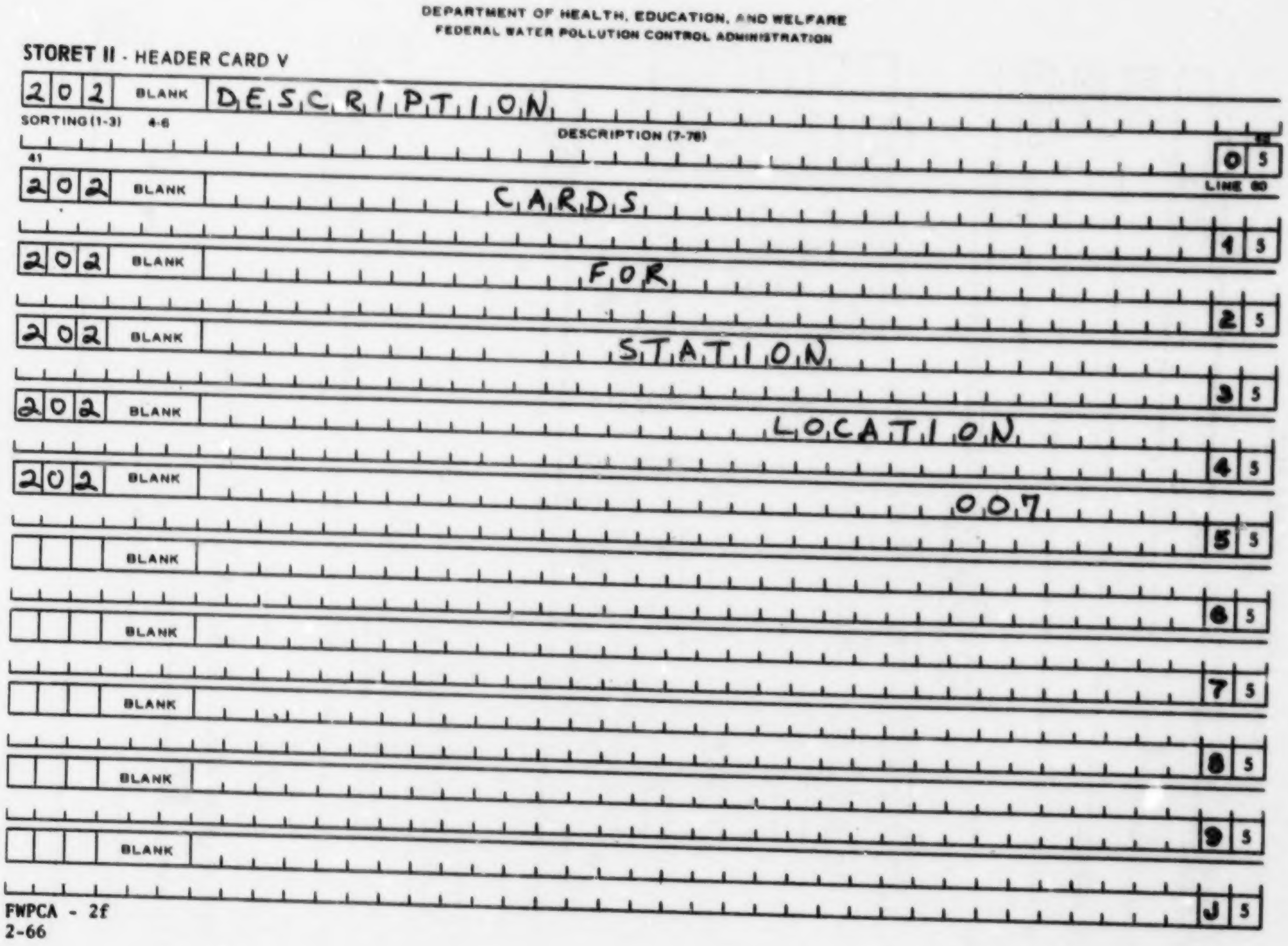
LOCATION NAME (20-51):
UNKNOWN CR AT OAK S

LOCATION NAME (CONT.):
ILL RD

REMARKS

(80) 4

FIGURE 22



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - HEADER CARD V

SORTING (1-3)	4-6	DESCRIPTION (7-78)	LINE 80
2 0 2	BLANK	DESCRIPTION	0 5
2 0 2	BLANK	CARDS	1 5
2 0 2	BLANK	FOR	2 5
2 0 2	BLANK	STATION	3 5
2 0 2	BLANK	LOCATION	4 5
2 0 2	BLANK	007	5 5
	BLANK		6 5
	BLANK		7 5
	BLANK		8 5
	BLANK		9 5
	BLANK		J 5

41

FWPCA - 2f
2-66

FIGURE 23

FWPCA STORET SYSTEM
DIVISION OF POLLUTION SURVEILLANCE
USER INFORMATION & STATION DATA REQUIRED FOR STORAGE AND CHANGES

AGENCY CARD

AGENCY (USER) CODE ☐☐☐☐☐☐☐☐ 1–8 BLANK 9-16

UNLOCKING KEY ☐☐☐☐☐☐☐☐ 17–24

USER NAME, LOCATION, PROJECT, ETC. ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐ 25–42

☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐ 43–61

DEPTH-FEET (F) OR METERS (M) ☐ 62

STORE CODE ☐☐☐ 63–65

UNLOCKING DATE YEAR ☐☐ 74 75 MO. ☐☐ 76 77

STATION TYPE ☐☐☐☐☐☐☐☐ 66–73

CONTROL CODE ☐☐ 78 79 A 80

STATION CARD

SEQUENCE NUMBER 2 0 3 1–3

PRIME STATION CODE 9 4 0 0 0 3 ☐☐☐☐☐☐☐☐☐ 4–18 * BLANK 19-33

(1) SECONDARY STATION CODE 0 0 8 ☐☐☐☐☐☐☐☐☐ 34–45 *

(2) SECONDARY STATION CODE C T 0 0 6 ☐☐☐☐☐☐☐ 46–57 *

(3) SECONDARY STATION CODE ☐☐☐☐☐☐☐☐☐☐ 58–67 *

* LEFT JUSTIFY

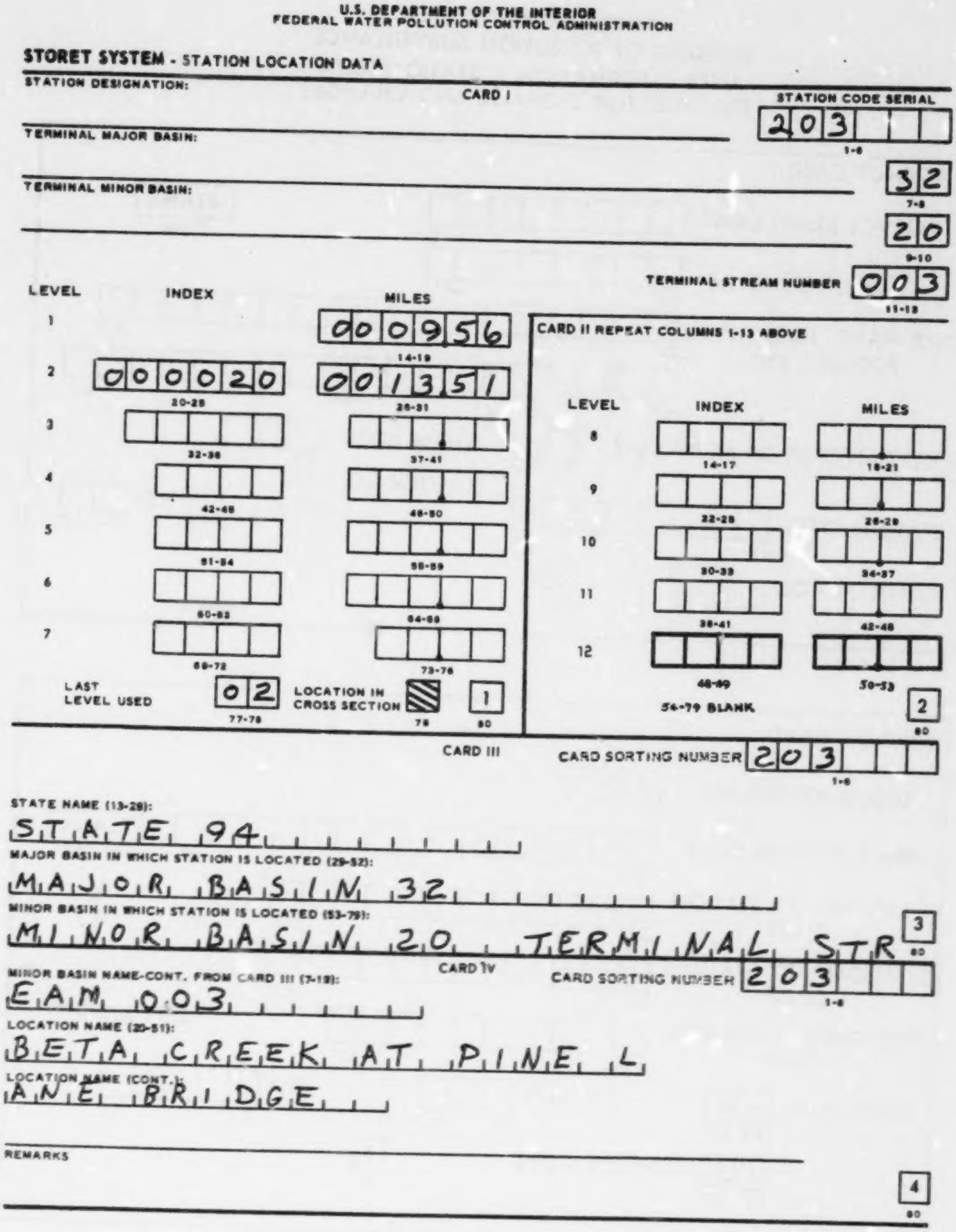
STATE CODE 9 4 68 69

COUNTY ☐☐☐ 70–72

CITY ☐☐☐☐☐ 73–77

N S 78 79 CONTROL CODE S 80

FIGURE 24



U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET SYSTEM - STATION LOCATION DATA

STATION DESIGNATION:

CARD I

STATION CODE SERIAL: 203 (1-6)

TERMINAL MAJOR BASIN: 32 (7-8)

TERMINAL MINOR BASIN: 20 (9-10)

TERMINAL STREAM NUMBER 003 (11-13)

LEVEL	INDEX	MILES
1		000956 14-19
2	000020 20-25	001351 26-31
3	32-36	37-41
4	42-45	46-50
5	51-54	55-59
6	60-63	64-68
7	69-72	73-76

LAST LEVEL USED 02 (77-78)   LOCATION IN CROSS SECTION ▨ (79)   1 (80)

CARD II REPEAT COLUMNS 1-13 ABOVE

LEVEL	INDEX	MILES
8	14-17	18-21
9	22-25	26-29
10	30-33	34-37
11	38-41	42-45
12	46-49	50-53

54-79 BLANK   2 (80)

CARD III

CARD SORTING NUMBER 203 (1-6)

STATE NAME (13-28): STATE 94

MAJOR BASIN IN WHICH STATION IS LOCATED (29-52): MAJOR BASIN 32

MINOR BASIN IN WHICH STATION IS LOCATED (53-79): MINOR BASIN 20 TERMINAL STR   3 (80)

CARD IV

CARD SORTING NUMBER 203 (1-6)

MINOR BASIN NAME-CONT. FROM CARD III (7-19): EAM 003

LOCATION NAME (20-51): BETA CREEK AT PINE L

LOCATION NAME (CONT.): ANE BRIDGE

REMARKS

4 (80)

FIGURE 25

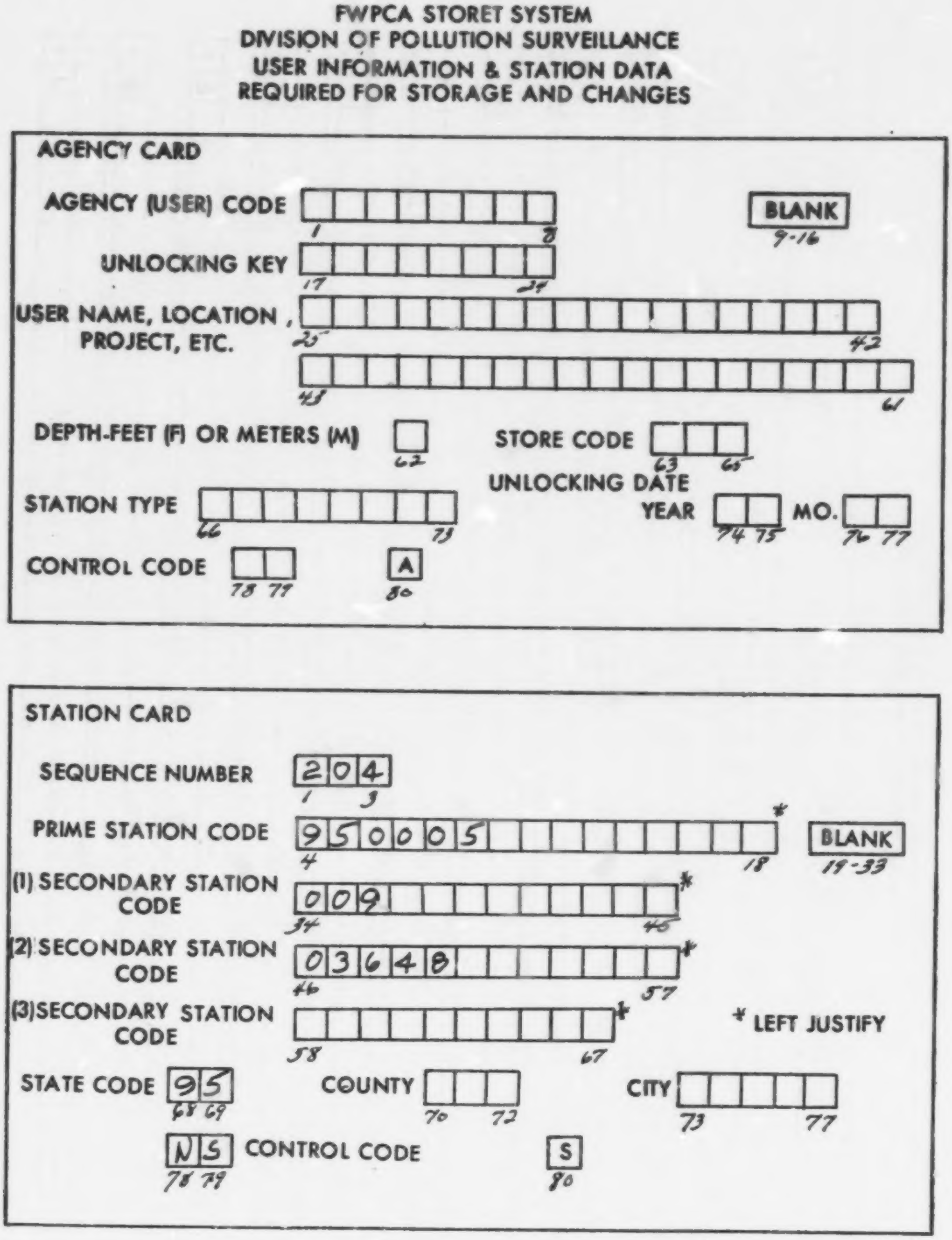
DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - HEADER CARD V

SORTING (1-3)	4-6	DESCRIPTION (7-78) 40 / 41	LINE 80
203	BLANK	DESCRIPTION	05
203	BLANK	CARDS	15
203	BLANK	FOR	25
203	BLANK	STATION	35
203	BLANK	LOCATION	45
203	BLANK	008	55
	BLANK		65
	BLANK		75
	BLANK		85
	BLANK		95
	BLANK		J5

FWPCA - 2f
2-66

FIGURE 26



FWPCA STORET SYSTEM
DIVISION OF POLLUTION SURVEILLANCE
USER INFORMATION & STATION DATA
REQUIRED FOR STORAGE AND CHANGES

AGENCY CARD

AGENCY (USER) CODE ☐☐☐☐☐☐☐☐ 1–8 BLANK 9-16

UNLOCKING KEY ☐☐☐☐☐☐☐☐ 17–24

USER NAME, LOCATION, PROJECT, ETC. ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐ 25–42

☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐ 43–61

DEPTH-FEET (F) OR METERS (M) ☐ 62

STORE CODE ☐☐☐ 63–65

UNLOCKING DATE YEAR ☐☐ 74 75 MO. ☐☐ 76 77

STATION TYPE ☐☐☐☐☐☐☐☐ 66–73

CONTROL CODE ☐☐ 78 77 A 80

STATION CARD

SEQUENCE NUMBER 2 0 4 (1–3)

PRIME STATION CODE 9 5 0 0 0 5 * 4–18 BLANK 19-33

(1) SECONDARY STATION CODE 0 0 9 * 34–45

(2) SECONDARY STATION CODE 0 3 6 4 8 * 46–57

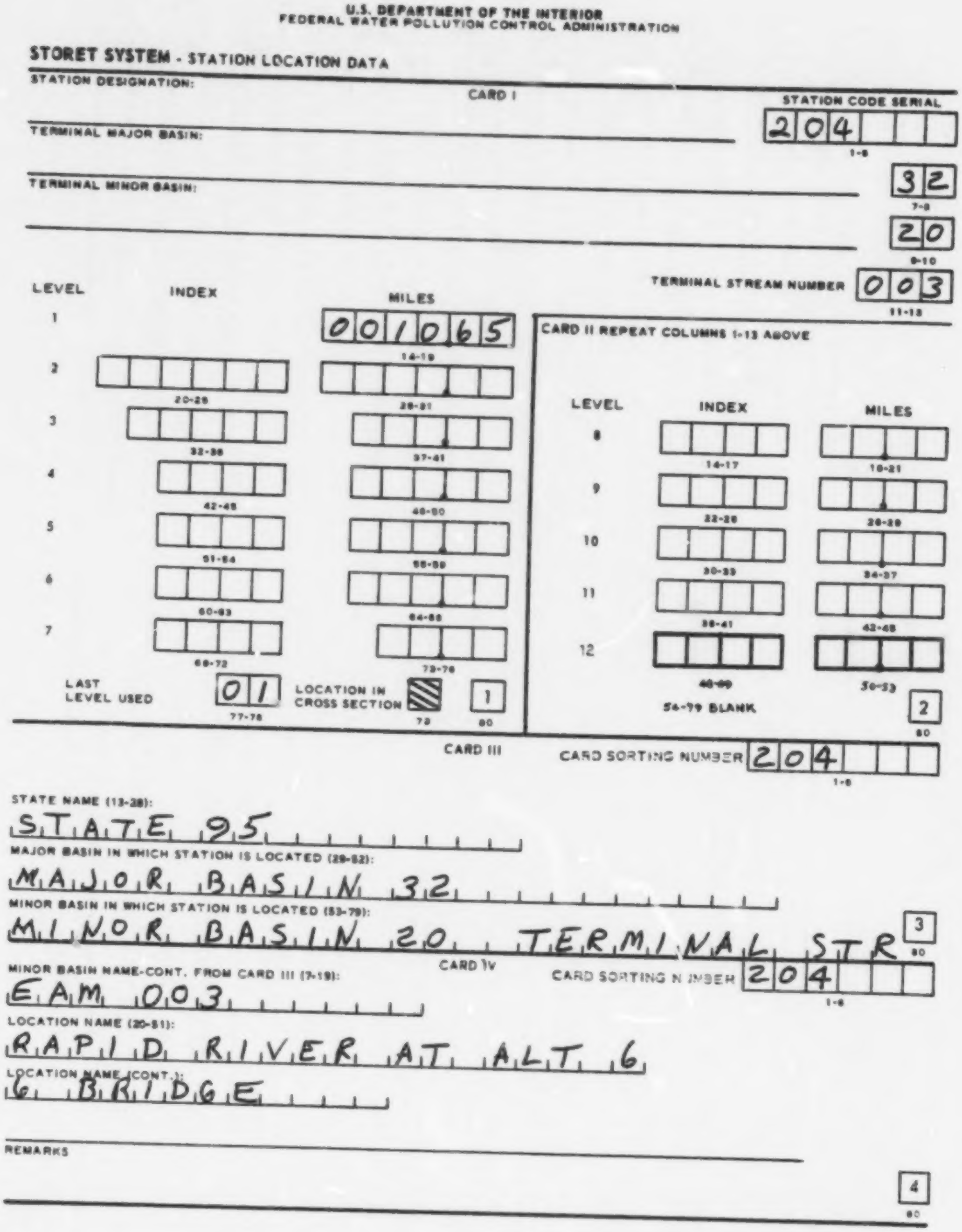
(3) SECONDARY STATION CODE ☐☐☐☐☐☐☐☐☐☐ * 58–67

* LEFT JUSTIFY

STATE CODE 9 5 68 69 COUNTY ☐☐☐ 70–72 CITY ☐☐☐☐☐ 73–77

N S 78 79 CONTROL CODE S 80

FIGURE 27



U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET SYSTEM - STATION LOCATION DATA

STATION DESIGNATION:

CARD I

STATION CODE SERIAL 204 (1-6)

TERMINAL MAJOR BASIN: 32 (7-8)

TERMINAL MINOR BASIN: 20 (9-10)

TERMINAL STREAM NUMBER 003 (11-13)

LEVEL	INDEX	MILES
1		001065 (14-19)
2	(20-25)	(26-31)
3	(32-36)	(37-41)
4	(42-45)	(46-50)
5	(51-54)	(55-59)
6	(60-63)	(64-68)
7	(69-72)	(73-76)

LAST LEVEL USED 01 (77-78)

LOCATION IN CROSS SECTION ▨ (79)

1 (80)

CARD II REPEAT COLUMNS 1-13 ABOVE

LEVEL	INDEX	MILES
8	(14-17)	(18-21)
9	(22-25)	(26-29)
10	(30-33)	(34-37)
11	(38-41)	(42-45)
12	(46-49)	(50-53)

54-79 BLANK

2 (80)

CARD III

CARD SORTING NUMBER 204 (1-6)

STATE NAME (13-28):
STATE 95

MAJOR BASIN IN WHICH STATION IS LOCATED (29-52):
MAJOR BASIN 32

MINOR BASIN IN WHICH STATION IS LOCATED (53-79):
MINOR BASIN 20 TERMINAL STR

3 (80)

CARD IV

CARD SORTING NUMBER 204 (1-6)

MINOR BASIN NAME-CONT. FROM CARD III (7-19):
EAM 003

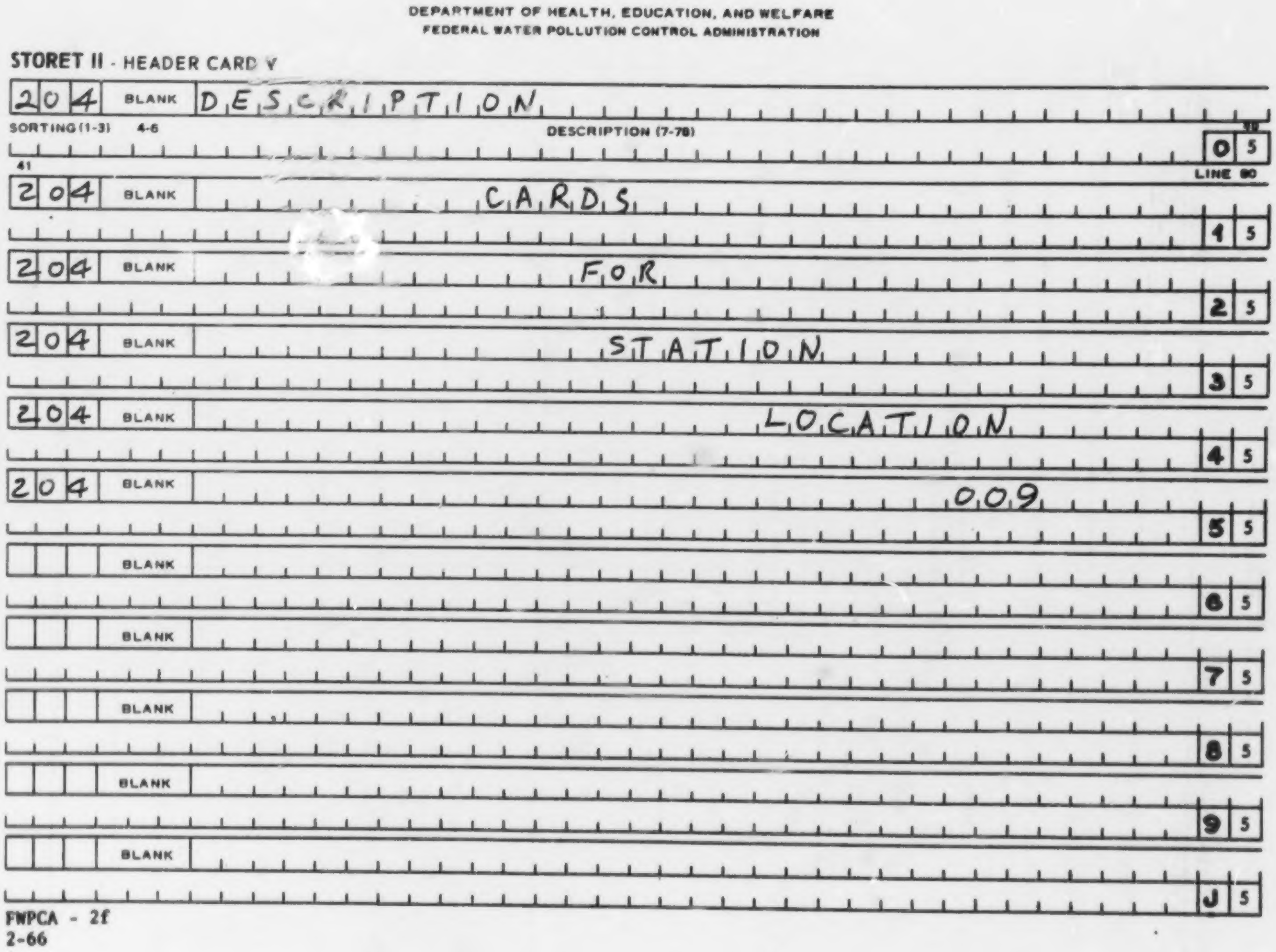
LOCATION NAME (20-51):
RAPID RIVER AT ALT 6

LOCATION NAME (CONT.):
6 BRIDGE

REMARKS

4 (80)

FIGURE 28



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - HEADER CARD V

SORTING (1-3)	4-6	DESCRIPTION (7-78)	LINE 80
204	BLANK	DESCRIPTION	0 5
204	BLANK	CARDS	1 5
204	BLANK	FOR	2 5
204	BLANK	STATION	3 5
204	BLANK	LOCATION	4 5
204	BLANK	009	5 5
	BLANK		6 5
	BLANK		7 5
	BLANK		8 5
	BLANK		9 5
	BLANK		J 5

FWPCA - 2f
2-66

FIGURE 29

FWPCA STORET SYSTEM
DIVISION OF POLLUTION SURVEILLANCE
USER INFORMATION & STATION DATA
REQUIRED FOR STORAGE AND CHANGES

AGENCY CARD

AGENCY (USER) CODE E X A M P L E 2 (1–8) BLANK (9-16)

UNLOCKING KEY T E S T (17–24)

USER NAME, LOCATION, PROJECT, ETC. S T O R E T E X A M P L E P R O (25–42)
B L E M 3 / 1 3 / 7 1 (43–61)

DEPTH-FEET (F) OR METERS (M) F (62)

STORE CODE (63–65)

STATION TYPE 0 2 1 1 1 2 0 2 (66–73)

UNLOCKING DATE YEAR 9 9 (74 75) MO. 9 9 (76 77)

CONTROL CODE (78 79) A (80)

STATION CARD

SEQUENCE NUMBER 3 0 1 (1–3)

PRIME STATION CODE 9 5 0 0 0 6 (4–18)* BLANK (19-33)

(1) SECONDARY STATION CODE 0 0 2 (34–45)*

(2) SECONDARY STATION CODE (46–57)*

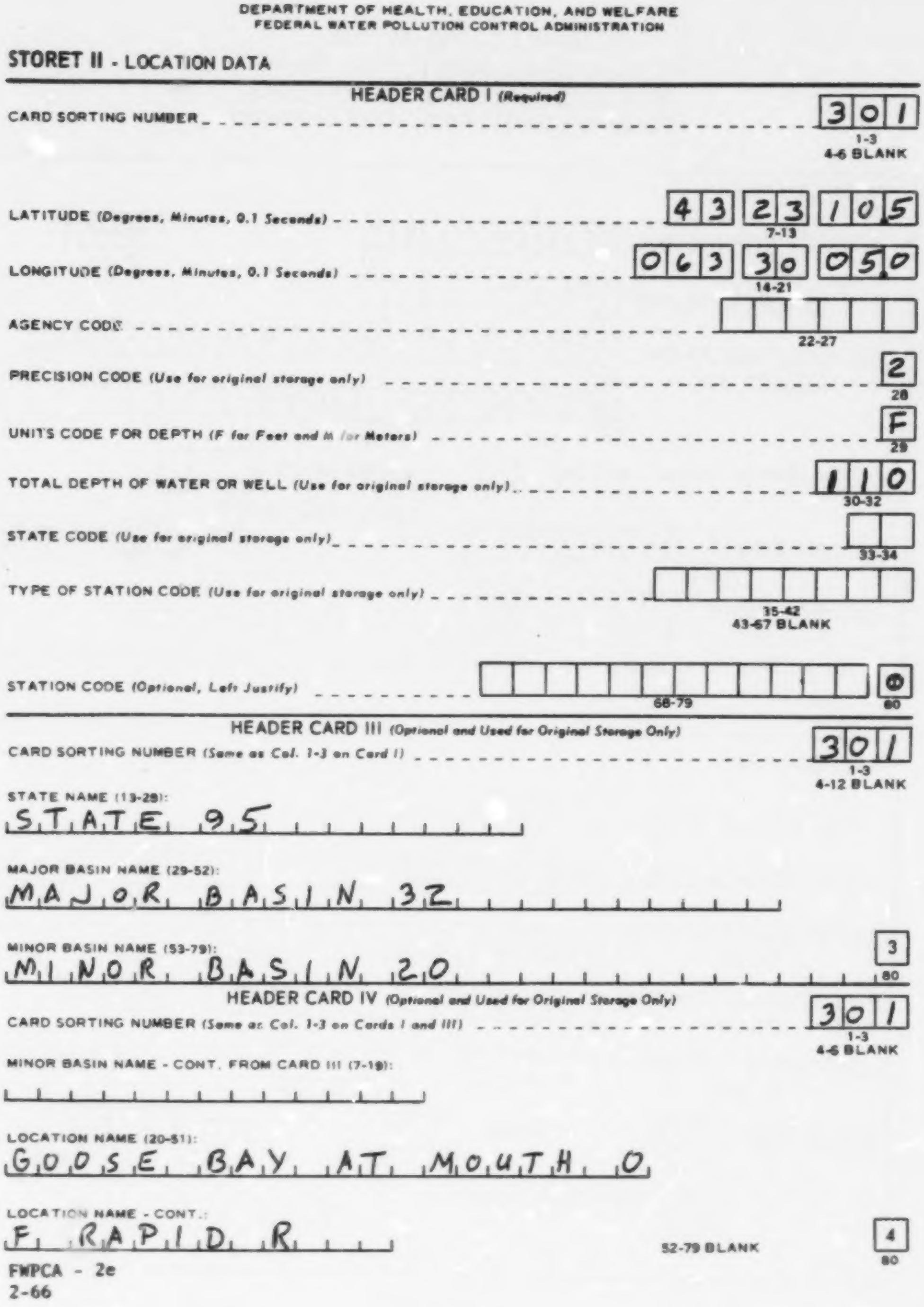
(3) SECONDARY STATION CODE (58–67)*

* LEFT JUSTIFY

STATE CODE 9 5 (68 69) COUNTY (70–72) CITY (73–77)

N S (78 79) CONTROL CODE S (80)

FIGURE 30



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - LOCATION DATA

HEADER CARD I *(Required)*

CARD SORTING NUMBER: 3 0 1 (1-3) — 4-6 BLANK

LATITUDE *(Degrees, Minutes, 0.1 Seconds)*: 4 3 | 2 3 | 1 0 5 (7-13)

LONGITUDE *(Degrees, Minutes, 0.1 Seconds)*: 0 6 3 | 3 0 | 0 5 0 (14-21)

AGENCY CODE: ☐☐☐☐☐☐ (22-27)

PRECISION CODE *(Use for original storage only)*: 2 (28)

UNITS CODE FOR DEPTH *(F for Feet and M for Meters)*: F (29)

TOTAL DEPTH OF WATER OR WELL *(Use for original storage only)*: 1 1 0 (30-32)

STATE CODE *(Use for original storage only)*: ☐☐ (33-34)

TYPE OF STATION CODE *(Use for original storage only)*: ☐☐☐☐☐☐☐☐ (35-42) — 43-67 BLANK

STATION CODE *(Optional, Left Justify)*: ☐☐☐☐☐☐☐☐☐☐☐☐ (68-79) ① (80)

HEADER CARD III *(Optional and Used for Original Storage Only)*

CARD SORTING NUMBER *(Same as Col. 1-3 on Card I)*: 3 0 1 (1-3) — 4-12 BLANK

STATE NAME (13-28):
STATE 95

MAJOR BASIN NAME (29-52):
MAJOR BASIN 32

MINOR BASIN NAME (53-79):
MINOR BASIN 20 — 3 (80)

HEADER CARD IV *(Optional and Used for Original Storage Only)*

CARD SORTING NUMBER *(Same as Col. 1-3 on Cards I and III)*: 3 0 1 (1-3) — 4-6 BLANK

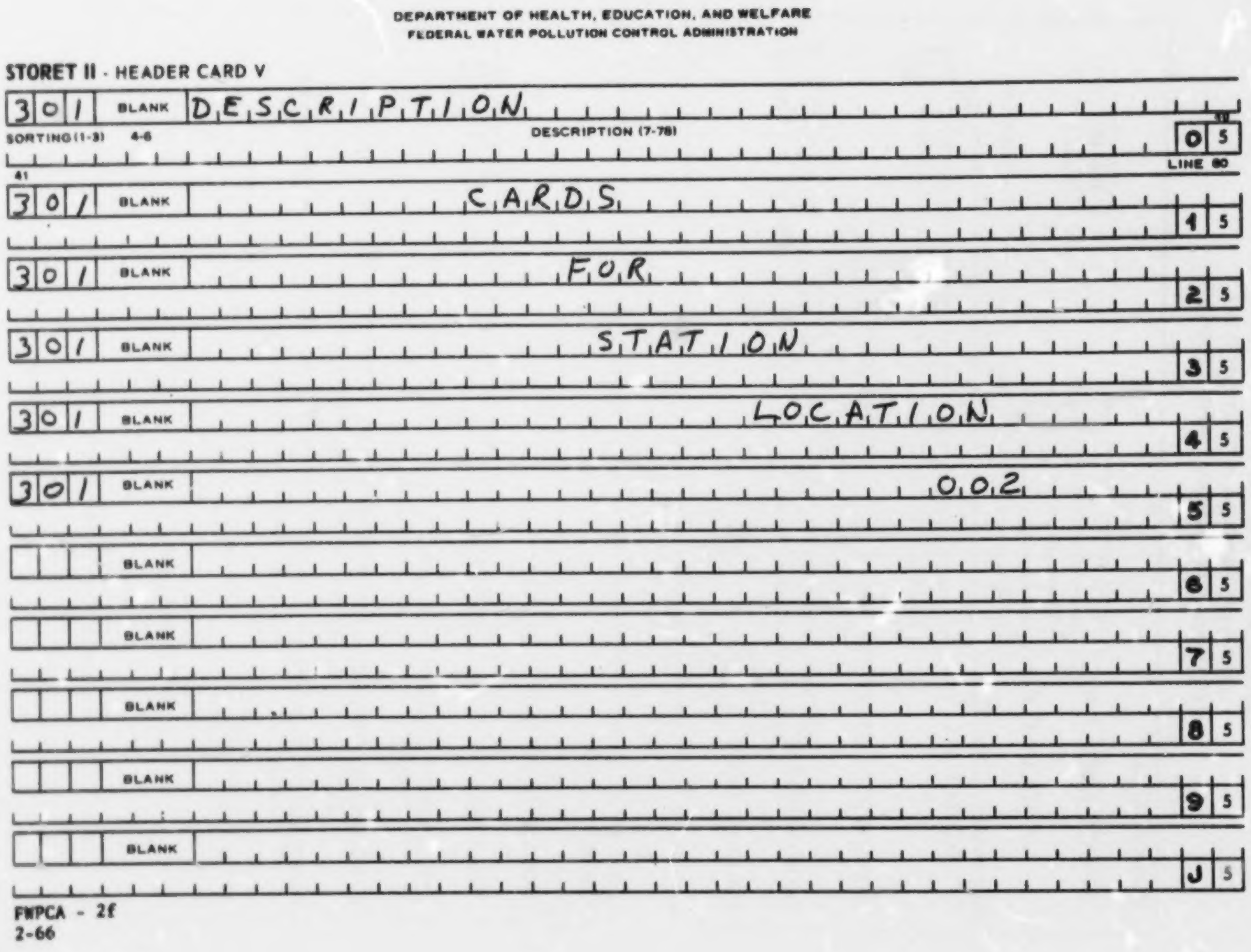
MINOR BASIN NAME - CONT. FROM CARD III (7-19):

LOCATION NAME (20-51):
GOOSE BAY AT MOUTH O

LOCATION NAME - CONT.:
F RAPID R — 52-79 BLANK — 4 (80)

FWPCA - 2e
2-66

FIGURE 31



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

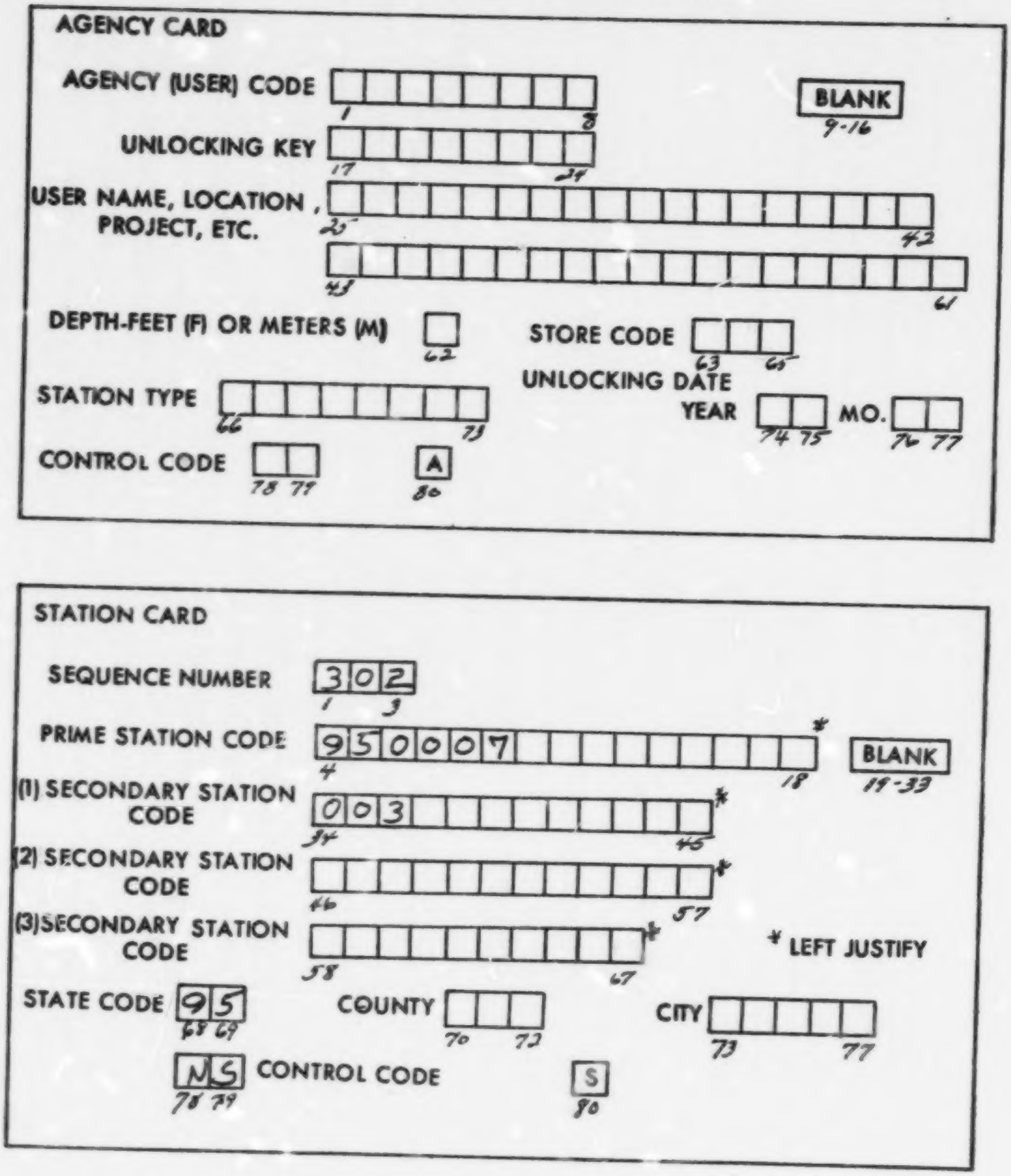
STORET II - HEADER CARD V

SORTING (1-3)	4-6	DESCRIPTION (7-78)	LINE 80
301	BLANK	DESCRIPTION	05
301	BLANK	CARDS	15
301	BLANK	FOR	25
301	BLANK	STATION	35
301	BLANK	LOCATION	45
301	BLANK	002	55
	BLANK		65
	BLANK		75
	BLANK		85
	BLANK		95
	BLANK		J5

FWPCA - 2f
2-66

FIGURE 32

FWPCA STORET SYSTEM
DIVISION OF POLLUTION SURVEILLANCE
USER INFORMATION & STATION DATA
REQUIRED FOR STORAGE AND CHANGES



AGENCY CARD

AGENCY (USER) CODE 1 8
BLANK 9-16
UNLOCKING KEY 17 24
USER NAME, LOCATION, PROJECT, ETC. 25 42
43 61
DEPTH-FEET (F) OR METERS (M) 62
STORE CODE 63 65
UNLOCKING DATE
YEAR 74 75 MO. 76 77
STATION TYPE 66 73
CONTROL CODE 78 79
A 80

STATION CARD

SEQUENCE NUMBER 302 1 3
PRIME STATION CODE 950007 4 18 *
BLANK 19-33
(1) SECONDARY STATION CODE 003 34 45 *
(2) SECONDARY STATION CODE 46 57 *
(3) SECONDARY STATION CODE 58 67 *
* LEFT JUSTIFY
STATE CODE 95 68 69
COUNTY 70 72
CITY 73 77
NS 78 79 CONTROL CODE
S 80

FIGURE 33

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - LOCATION DATA

HEADER CARD I *(Required)*

CARD SORTING NUMBER: 302 (1-3; 4-6 BLANK)

LATITUDE *(Degrees, Minutes, 0.1 Seconds)*: 43 20 05.0 (7-13)

LONGITUDE *(Degrees, Minutes, 0.1 Seconds)*: 062 30 05.5 (14-21)

AGENCY CODE: (22-27)

PRECISION CODE *(Use for original storage only)*: 2 (28)

UNITS CODE FOR DEPTH *(F for Feet and M for Meters)*: F (29)

TOTAL DEPTH OF WATER OR WELL *(Use for original storage only)*: 032 (30-32)

STATE CODE *(Use for original storage only)*: (33-34)

TYPE OF STATION CODE *(Use for original storage only)*: (35-42; 43-67 BLANK)

STATION CODE *(Optional, Left Justify)*: (68-79) ① (80)

HEADER CARD III *(Optional and Used for Original Storage Only)*

CARD SORTING NUMBER *(Same as Col. 1-3 on Card I)*: 302 (1-3; 4-12 BLANK)

STATE NAME (13-28): STATE 95

MAJOR BASIN NAME (29-52): MAJOR BASIN 32

MINOR BASIN NAME (53-79): MINOR BASIN 20 — 3 (80)

HEADER CARD IV *(Optional and Used for Original Storage Only)*

CARD SORTING NUMBER *(Same as Col. 1-3 on Cards I and III)*: 302 (1-3; 4-6 BLANK)

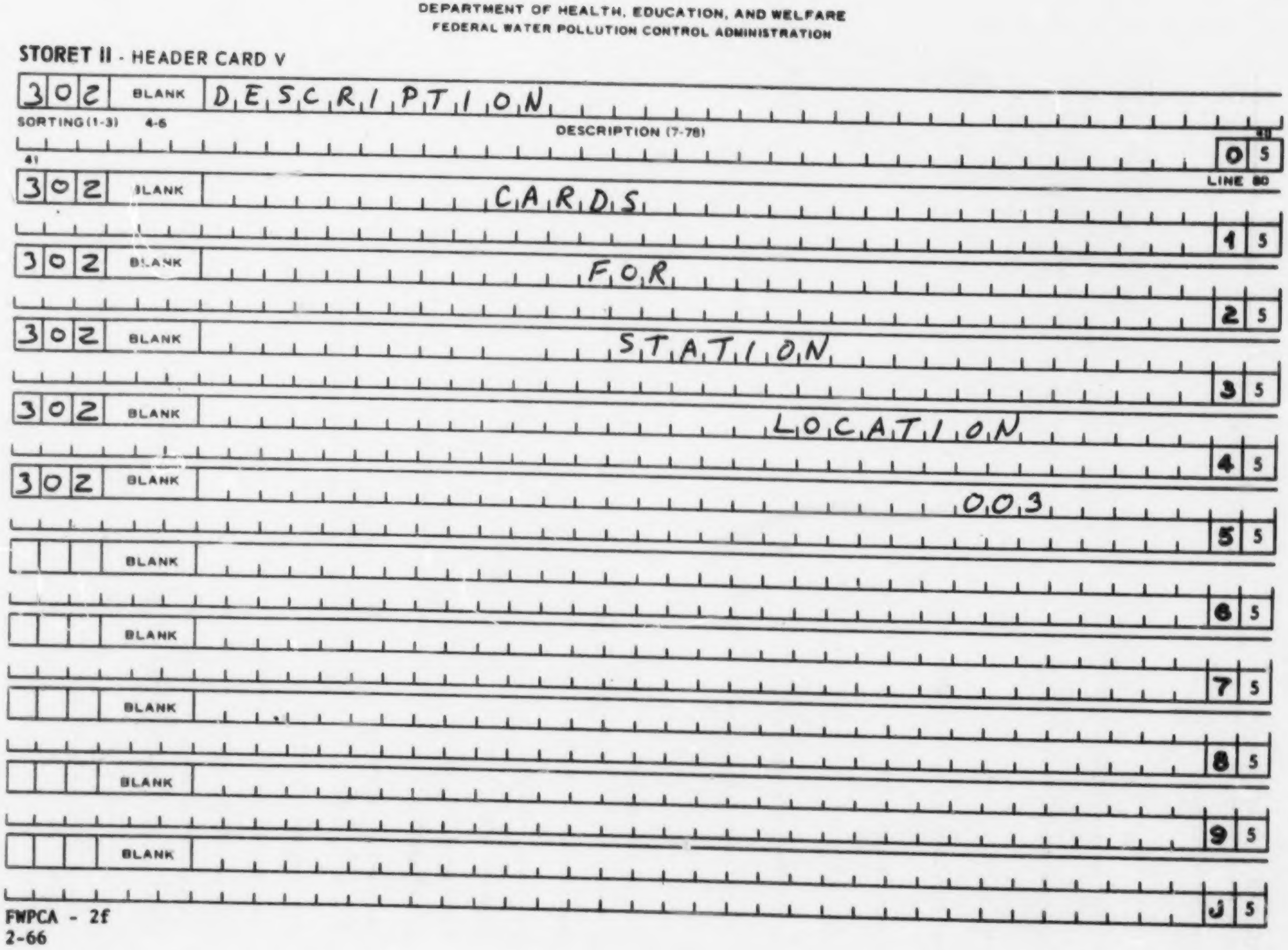
MINOR BASIN NAME - CONT. FROM CARD III (7-19):

LOCATION NAME (20-51): GOOSE BAY AT MOUTH O

LOCATION NAME - CONT.: F RAPID R — 52-79 BLANK — 4 (80)

FWPCA - 2e
2-66

FIGURE 34



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - HEADER CARD V

SORTING (1-3)	4-6	DESCRIPTION (7-78)	79	LINE 80
302	BLANK	DESCRIPTION	0	5
302	BLANK	CARDS	1	5
302	BLANK	FOR	2	5
302	BLANK	STATION	3	5
302	BLANK	LOCATION	4	5
302	BLANK	003	5	5
	BLANK		6	5
	BLANK		7	5
	BLANK		8	5
	BLANK		9	5
	BLANK		J	5

FWPCA - 2f
2-66

FIGURE 35

FWPCA STORET SYSTEM
DIVISION OF POLLUTION SURVEILLANCE
USER INFORMATION & STATION DATA REQUIRED FOR STORAGE AND CHANGES

AGENCY CARD

AGENCY (USER) CODE: EXAMPLE2 (1–8) BLANK 9-16

UNLOCKING KEY: TEST (17–24)

USER NAME, LOCATION, PROJECT, ETC.: STORET EXAMPLE PR[illegible] (25–42)

BLEM 3/13/71 (43–61)

DEPTH-FEET (F) OR METERS (M): F (62)

STORE CODE: ☐☐☐ (63–65)

UNLOCKING DATE

STATION TYPE: 02441204 (66–73)

YEAR: 99 (74 75) MO.: 99 (76 77)

CONTROL CODE: ☐☐ (78 79) A (80)

STATION CARD

SEQUENCE NUMBER: 401 (1–3)

PRIME STATION CODE: 940004 * (4–18) BLANK 19-33

(1) SECONDARY STATION CODE: 010 * (34–45)

(2) SECONDARY STATION CODE: ☐ * (46–57)

(3) SECONDARY STATION CODE: ☐ * (58–67)

* LEFT JUSTIFY

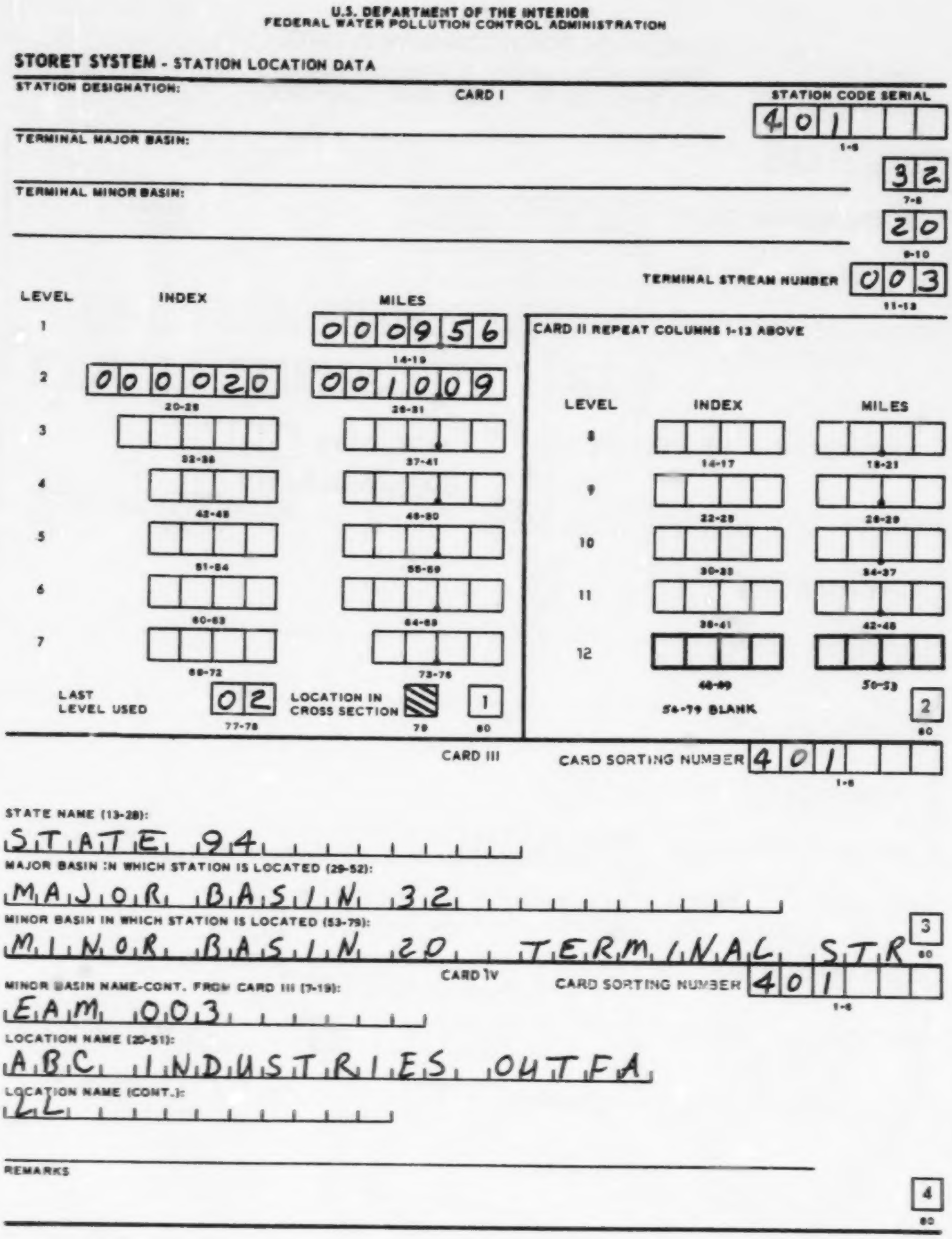
STATE CODE: 94 (68 69)

COUNTY: ☐☐☐ (70–72)

CITY: ☐☐☐☐☐ (73–77)

NS (78 79) CONTROL CODE S (80)

FIGURE 36



U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET SYSTEM - STATION LOCATION DATA

CARD I

STATION DESIGNATION:

STATION CODE SERIAL (1-6): 401

TERMINAL MAJOR BASIN: (7-8) 32

TERMINAL MINOR BASIN: (9-10) 20

TERMINAL STREAM NUMBER (11-13): 003

LEVEL	INDEX	MILES
1		000956 (14-19)
2	000020 (20-25)	001009 (26-31)
3	(32-36)	(37-41)
4	(42-45)	(46-50)
5	(51-54)	(55-59)
6	(60-63)	(64-68)
7	(69-72)	(73-76)

LAST LEVEL USED (77-78): 02

LOCATION IN CROSS SECTION (79): ▨

(80): 1

CARD II REPEAT COLUMNS 1-13 ABOVE

LEVEL	INDEX	MILES
8	(14-17)	(18-21)
9	(22-25)	(26-29)
10	(30-33)	(34-37)
11	(38-41)	(42-45)
12	(46-49)	(50-53)

54-79 BLANK

(80): 2

CARD III

CARD SORTING NUMBER (1-6): 401

STATE NAME (13-28): STATE 94

MAJOR BASIN IN WHICH STATION IS LOCATED (29-52): MAJOR BASIN 32

MINOR BASIN IN WHICH STATION IS LOCATED (53-79): MINOR BASIN 20 TERMINAL STR

(80): 3

CARD IV

CARD SORTING NUMBER (1-6): 401

MINOR BASIN NAME-CONT. FROM CARD III (7-19): EAM 003

LOCATION NAME (20-51): ABC INDUSTRIES OUTFA

LOCATION NAME (CONT.): LL

REMARKS

(80): 4

FIGURE 37

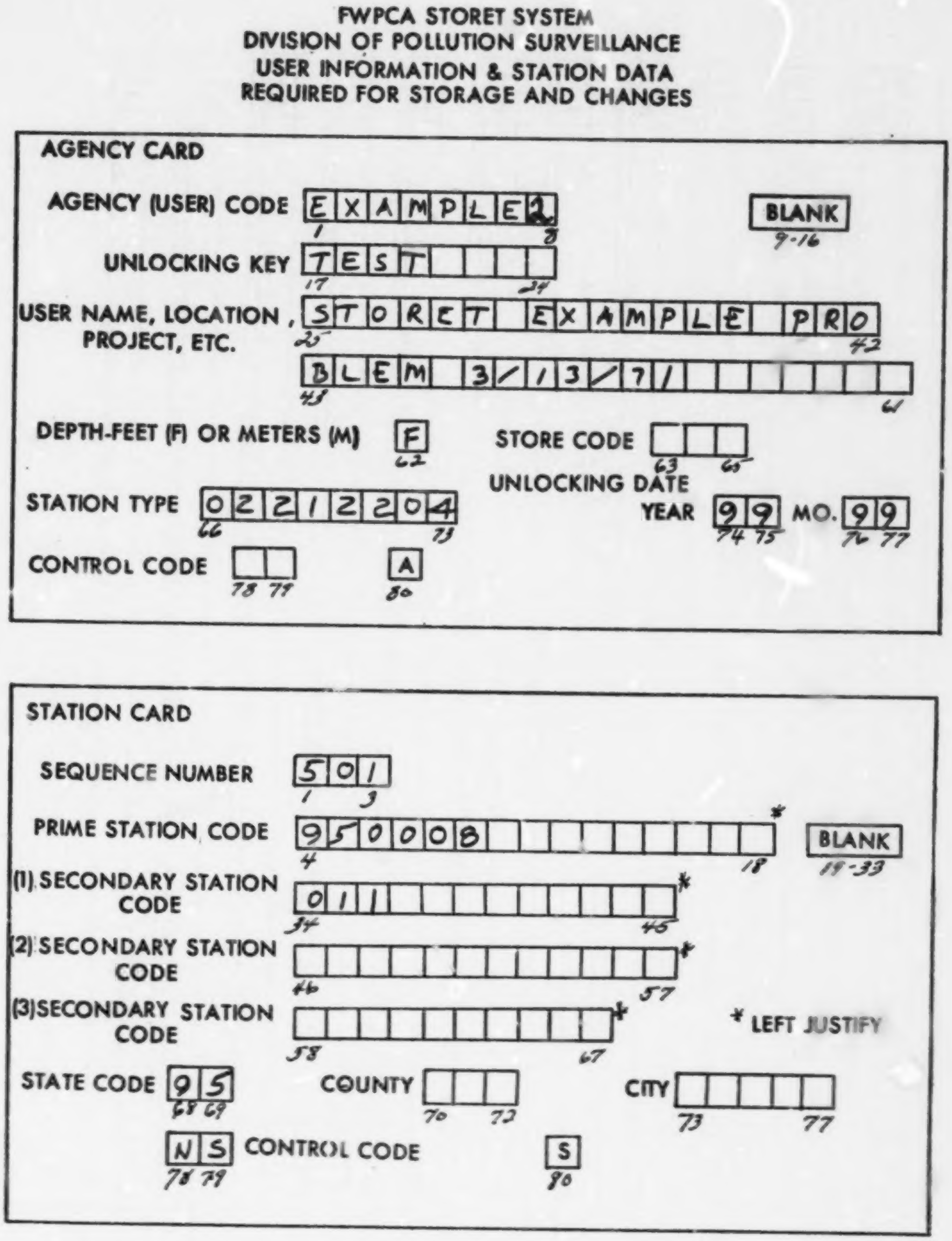
DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - HEADER CARD V

SORTING (1-3)	4-6	DESCRIPTION (7-78)	LINE 80
401	BLANK	DESCRIPTION	05
401	BLANK	CARDS	15
401	BLANK	FOR	25
401	BLANK	STATION	35
401	BLANK	LOCATION	45
401	BLANK	010	55
	BLANK		65
	BLANK		75
	BLANK		85
	BLANK		95
	BLANK		J5

FWPCA - 2f
2-66

FIGURE 38



FWPCA STORET SYSTEM
DIVISION OF POLLUTION SURVEILLANCE
USER INFORMATION & STATION DATA
REQUIRED FOR STORAGE AND CHANGES

AGENCY CARD

AGENCY (USER) CODE: EXAMPLE2 (1–8)   BLANK 9-16

UNLOCKING KEY: TEST (17–24)

USER NAME, LOCATION, PROJECT, ETC.: STORET EXAMPLE PRO (25–42)
BLEM 3/13/71 (43–61)

DEPTH-FEET (F) OR METERS (M): F (62)

STORE CODE: (63–65)

UNLOCKING DATE YEAR: 99 (74 75) MO.: 99 (76 77)

STATION TYPE: 02212204 (66–73)

CONTROL CODE: (78 79)   A (80)

STATION CARD

SEQUENCE NUMBER: 501 (1–3)

PRIME STATION CODE: 950008 * (4–18)   BLANK 19-33

(1) SECONDARY STATION CODE: 011 * (34–45)

(2) SECONDARY STATION CODE: * (46–57)

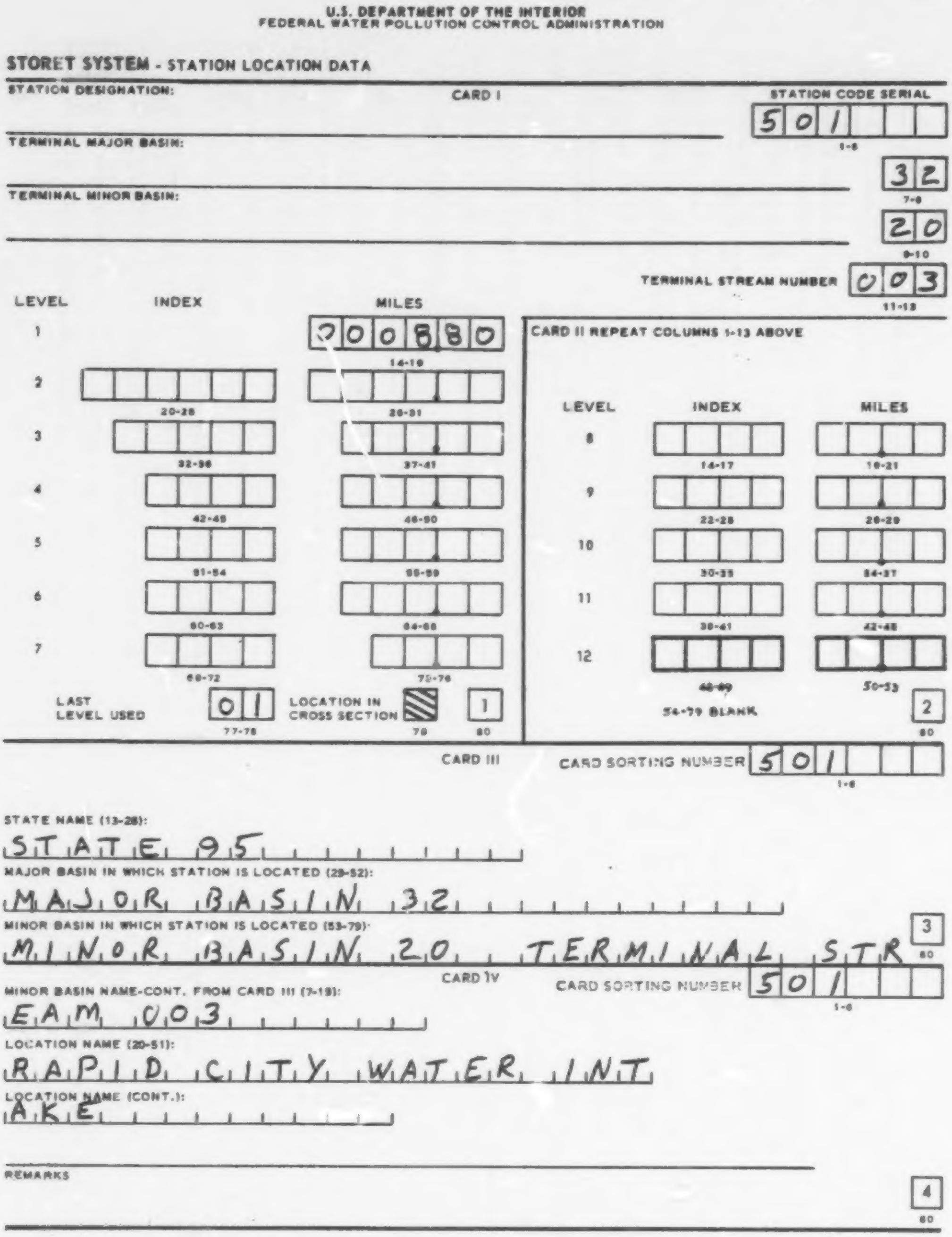
(3) SECONDARY STATION CODE: * (58–67)

* LEFT JUSTIFY

STATE CODE: 95 (68 69)   COUNTY: (70–72)   CITY: (73–77)

NS (78 79) CONTROL CODE   S (80)

FIGURE 39



U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET SYSTEM - STATION LOCATION DATA

CARD I

STATION DESIGNATION:

STATION CODE SERIAL 501 (1-6)

TERMINAL MAJOR BASIN: 32 (7-8)

TERMINAL MINOR BASIN: 20 (9-10)

TERMINAL STREAM NUMBER 003 (11-13)

LEVEL	INDEX	MILES
1		000880 (14-19)
2	(20-25)	(26-31)
3	(32-36)	(37-41)
4	(42-45)	(46-50)
5	(51-54)	(55-59)
6	(60-63)	(64-68)
7	(69-72)	(73-76)

LAST LEVEL USED 01 (77-78)

LOCATION IN CROSS SECTION ▨ (79)

1 (80)

CARD II REPEAT COLUMNS 1-13 ABOVE

LEVEL	INDEX	MILES
8	(14-17)	(18-21)
9	(22-25)	(26-29)
10	(30-33)	(34-37)
11	(38-41)	(42-45)
12	(46-49)	(50-53)

54-79 BLANK

2 (80)

CARD III

CARD SORTING NUMBER 501 (1-6)

STATE NAME (13-28): STATE 95

MAJOR BASIN IN WHICH STATION IS LOCATED (29-52): MAJOR BASIN 32

MINOR BASIN IN WHICH STATION IS LOCATED (53-79): MINOR BASIN 20 TERMINAL STR

3 (80)

CARD IV

CARD SORTING NUMBER 501 (1-6)

MINOR BASIN NAME-CONT. FROM CARD III (7-19): EAM 003

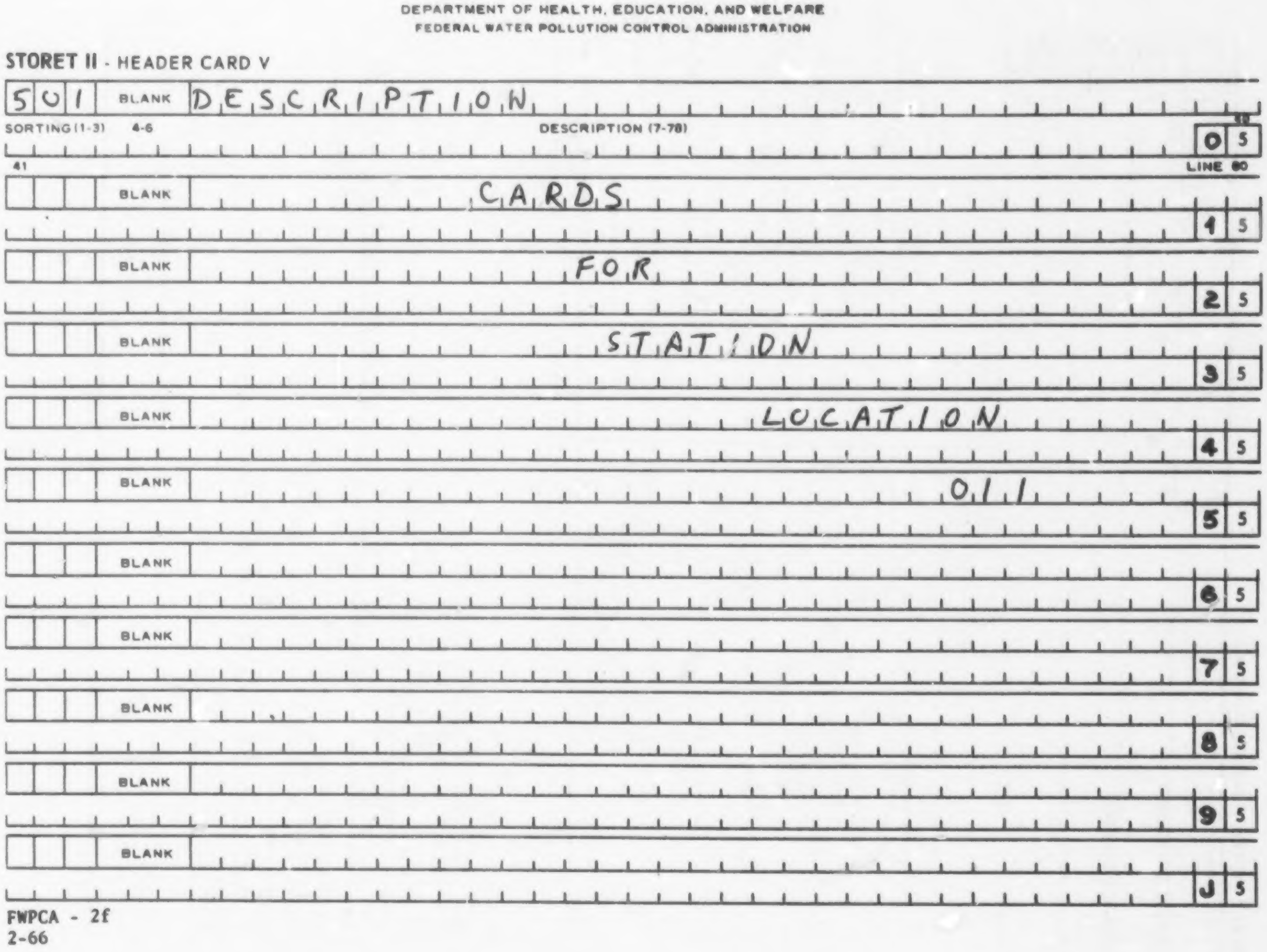
LOCATION NAME (20-51): RAPID CITY WATER INT

LOCATION NAME (CONT.): AKE

REMARKS

4 (80)

FIGURE 40



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - HEADER CARD V

SORTING (1-3)	4-6	DESCRIPTION (7-78)	LINE 80
501	BLANK	DESCRIPTION	0 5
	BLANK	CARDS	1 5
	BLANK	FOR	2 5
	BLANK	STATION	3 5
	BLANK	LOCATION	4 5
	BLANK	011	5 5
	BLANK		6 5
	BLANK		7 5
	BLANK		8 5
	BLANK		9 5
	BLANK		J 5

FWPCA - 2f
2-66

FIGURE 41

FWPCA STORET SYSTEM
DIVISION OF POLLUTION SURVEILLANCE
USER INFORMATION & STATION DATA
REQUIRED FOR STORAGE AND CHANGES

AGENCY CARD

AGENCY (USER) CODE EXAMPLE2 (1–8) BLANK 9-16

UNLOCKING KEY TEST (17–24)

USER NAME, LOCATION, PROJECT, ETC. STORET EXAMPLE PRO (25–42)

BLEM 3/13/71 (43–61)

DEPTH-FEET (F) OR METERS (M) F (62)

STORE CODE ☐☐☐ (63–65)

UNLOCKING DATE YEAR 99 (74 75) MO. 99 (76 77)

STATION TYPE 02241204 (66–73)

CONTROL CODE ☐☐ (78 79) A (80)

STATION CARD

SEQUENCE NUMBER 601 (1–3)

PRIME STATION CODE 950009* (4–18) BLANK 19-33

(1) SECONDARY STATION CODE 012* (34–45)

(2) SECONDARY STATION CODE ☐* (46–57)

(3) SECONDARY STATION CODE ☐* (58–67)

* LEFT JUSTIFY

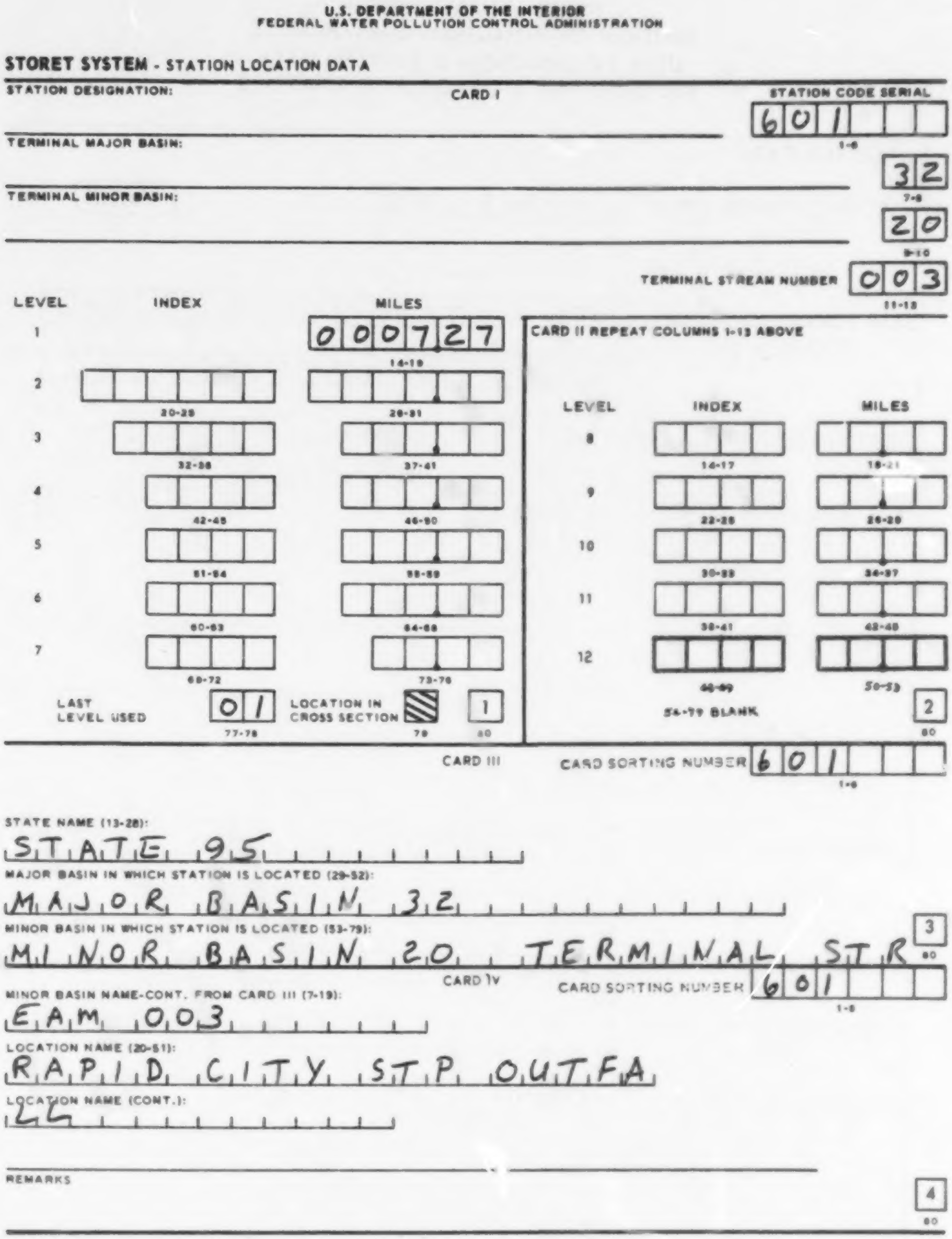
STATE CODE 95 (68 69)

COUNTY ☐☐☐ (70–72)

CITY ☐☐☐☐☐ (73–77)

NS (78 79) CONTROL CODE S (80)

FIGURE 42



U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET SYSTEM - STATION LOCATION DATA

CARD I

STATION DESIGNATION:

STATION CODE SERIAL (1-6): 601

TERMINAL MAJOR BASIN:

(7-8): 32

TERMINAL MINOR BASIN:

(9-10): 20

TERMINAL STREAM NUMBER (11-13): 003

LEVEL	INDEX	MILES
1		000727 (14-19)
2	(20-25)	(26-31)
3	(32-36)	(37-41)
4	(42-45)	(46-50)
5	(51-54)	(55-59)
6	(60-63)	(64-68)
7	(69-72)	(73-76)

LAST LEVEL USED (77-78): 01

LOCATION IN CROSS SECTION (79): ▨

(80): 1

CARD II REPEAT COLUMNS 1-13 ABOVE

LEVEL	INDEX	MILES
8	(14-17)	(18-21)
9	(22-25)	(26-29)
10	(30-33)	(34-37)
11	(38-41)	(42-45)
12	(46-49)	(50-53)

54-79 BLANK

(80): 2

CARD III

CARD SORTING NUMBER (1-6): 601

STATE NAME (13-28):
STATE 95

MAJOR BASIN IN WHICH STATION IS LOCATED (29-52):
MAJOR BASIN 32

MINOR BASIN IN WHICH STATION IS LOCATED (53-79):
MINOR BASIN 20 TERMINAL STR

(80): 3

CARD IV

CARD SORTING NUMBER (1-6): 601

MINOR BASIN NAME-CONT. FROM CARD III (7-19):
EAM 003

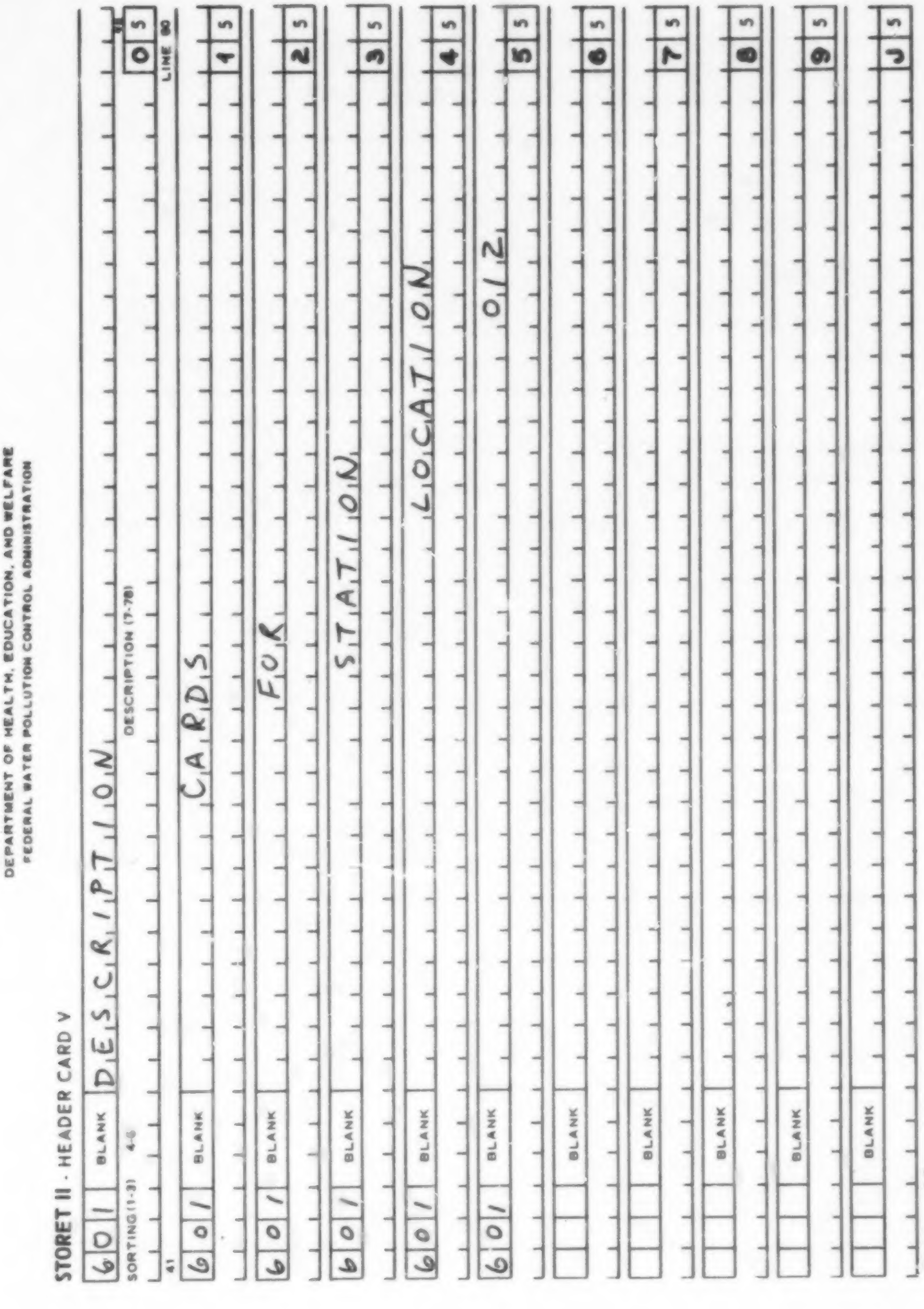
LOCATION NAME (20-51):
RAPID CITY STP OUTFA

LOCATION NAME (CONT.):
LL

REMARKS

(80): 4

FIGURE 43



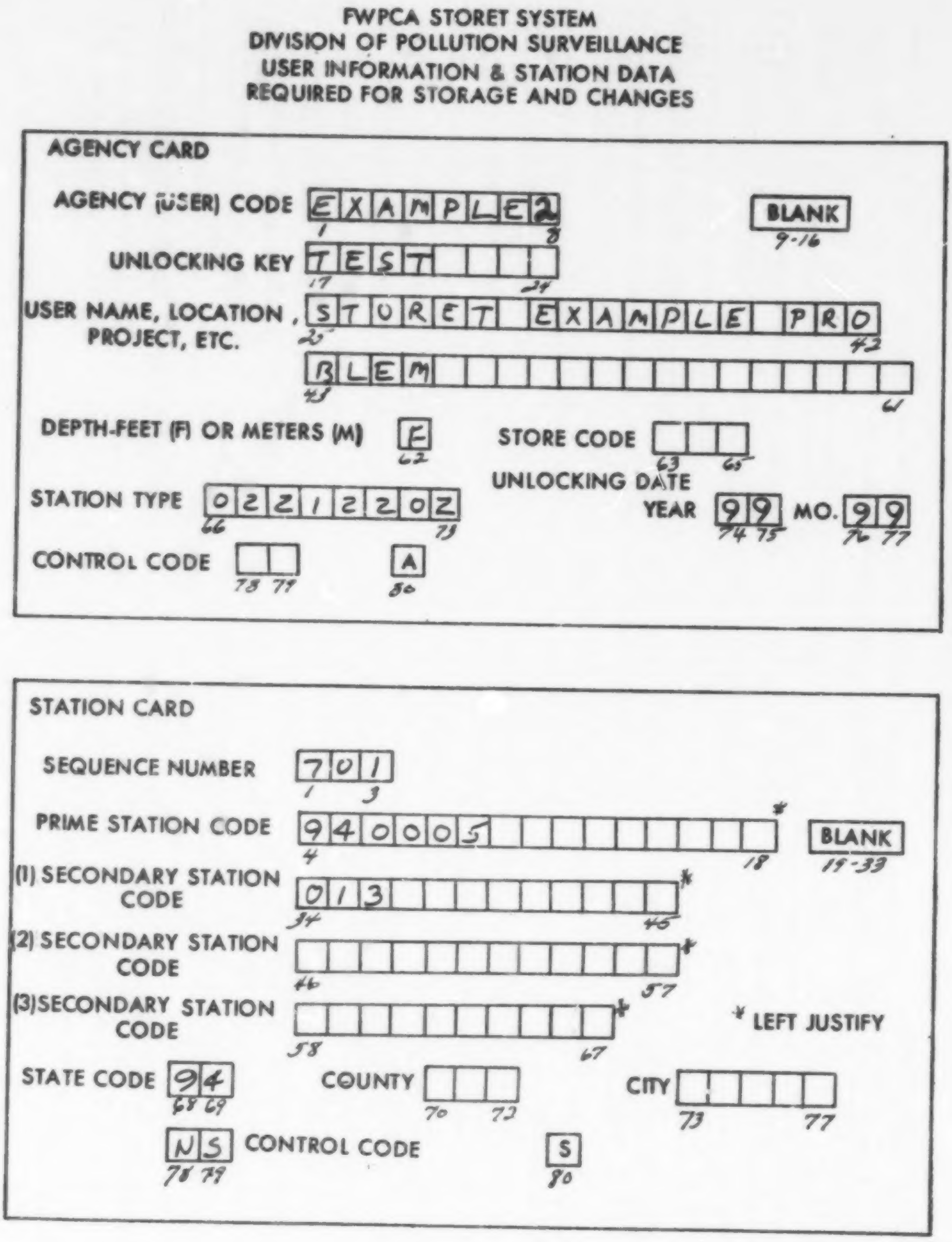
DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - HEADER CARD V

SORTING (1-3)	4-6	DESCRIPTION (7-78)	LINE 80
601	BLANK	DESCRIPTION	05
601	BLANK	CARDS	15
601	BLANK	FOR	25
601	BLANK	STATION	35
601	BLANK	LOCATION	45
601	BLANK	012	55
	BLANK		65
	BLANK		75
	BLANK		85
	BLANK		95
	BLANK		J5

WPCA - 2f
2-66

FIGURE 44



FWPCA STORET SYSTEM
DIVISION OF POLLUTION SURVEILLANCE
USER INFORMATION & STATION DATA
REQUIRED FOR STORAGE AND CHANGES

AGENCY CARD

AGENCY (USER) CODE EXAMPLE2 1 8 BLANK 9-16

UNLOCKING KEY TEST 17 24

USER NAME, LOCATION, PROJECT, ETC. STORET EXAMPLE PRO 25 42

BLEM 43 61

DEPTH-FEET (F) OR METERS (M) F 62

STORE CODE 63 65

UNLOCKING DATE YEAR 99 74 75 MO. 99 76 77

STATION TYPE 02212202 66 73

CONTROL CODE 78 79 A 80

STATION CARD

SEQUENCE NUMBER 701 1 3

PRIME STATION CODE 940005 4 18 * BLANK 19-33

(1) SECONDARY STATION CODE 013 34 45 *

(2) SECONDARY STATION CODE 46 57 *

(3) SECONDARY STATION CODE 58 67 *

* LEFT JUSTIFY

STATE CODE 94 68 69

COUNTY 70 72

CITY 73 77

NS 78 79 CONTROL CODE S 80

FIGURE 45

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - LOCATION DATA

HEADER CARD I *(Required)*

CARD SORTING NUMBER: 7 0 1 (1-3; 4-6 BLANK)

LATITUDE *(Degrees, Minutes, 0.1 Seconds)*: 4 3 | 6 2 | 1 0.0 (7-13)

LONGITUDE *(Degrees, Minutes, 0.1 Seconds)*: 0 6 2 | 3 1 | 1 1.0 (14-21)

AGENCY CODE: ☐☐☐☐☐☐ (22-27)

PRECISION CODE *(Use for original storage only)*: 2 (28)

UNITS CODE FOR DEPTH *(F for Feet and M for Meters)*: F (29)

TOTAL DEPTH OF WATER OR WELL *(Use for original storage only)*: 0 0 0 (30-32)

STATE CODE *(Use for original storage only)*: ☐☐ (33-34)

TYPE OF STATION CODE *(Use for original storage only)*: ☐☐☐☐☐☐☐☐ (35-42; 43-67 BLANK)

STATION CODE *(Optional, Left Justify)*: ☐☐☐☐☐☐☐☐☐☐☐☐ (68-79) 0 (80)

HEADER CARD III *(Optional and Used for Original Storage Only)*

CARD SORTING NUMBER *(Same as Col. 1-3 on Card I)*: 7 0 1 (1-3; 4-12 BLANK)

STATE NAME (13-28):
STATE 94

MAJOR BASIN NAME (29-52):
MAJOR BASIN 32

MINOR BASIN NAME (53-79):
MINOR BASIN 20
3 (80)

HEADER CARD IV *(Optional and Used for Original Storage Only)*

CARD SORTING NUMBER *(Same as Col. 1-3 on Cards I and III)*: 7 0 1 (1-3; 4-6 BLANK.)

MINOR BASIN NAME - CONT. FROM CARD III (7-19):

LOCATION NAME (20-51):
BAY VILLAGE WATER IN

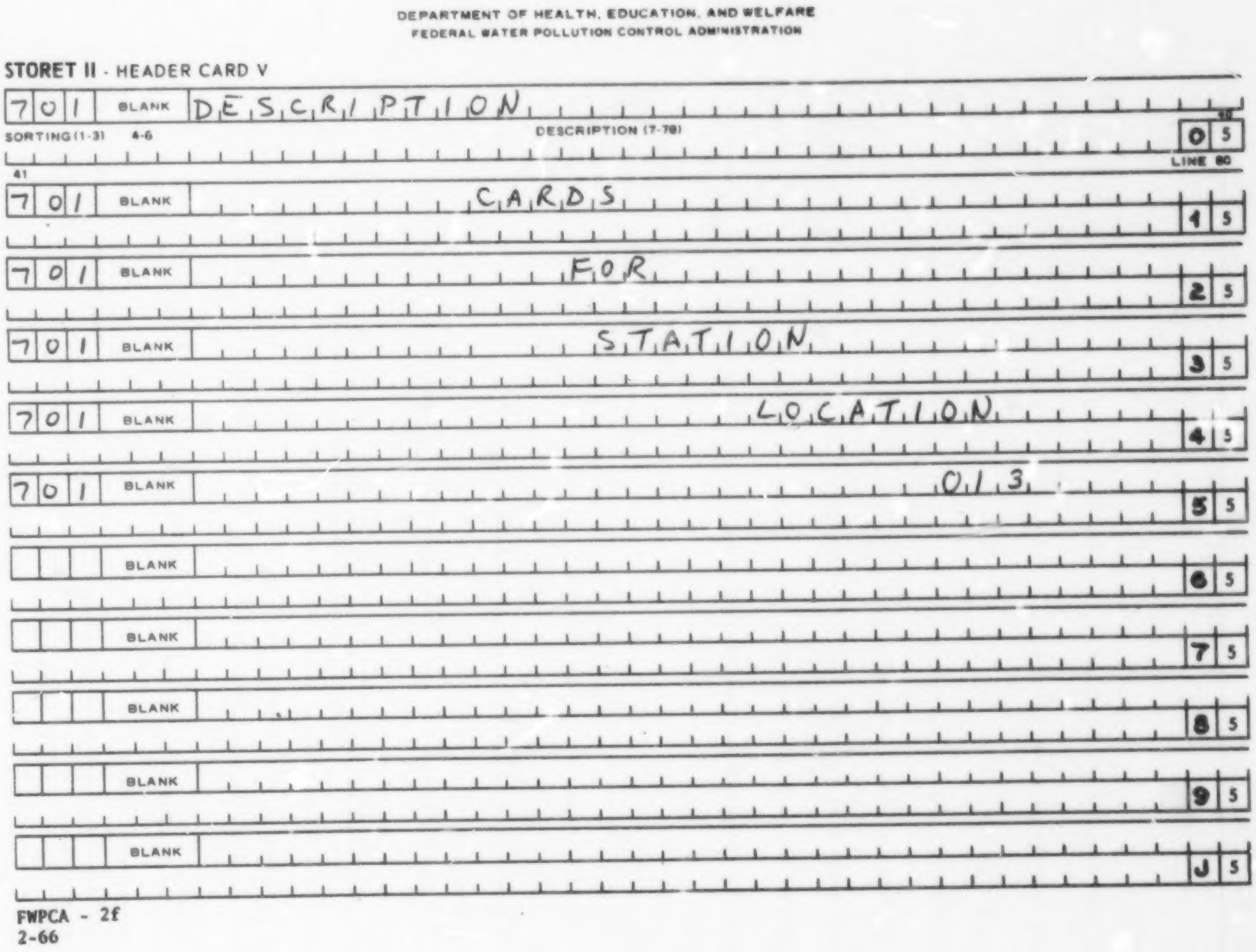
LOCATION NAME - CONT.:
TAKE

52-79 BLANK

4 (80)

FWPCA - 2e
2-66

FIGURE 46



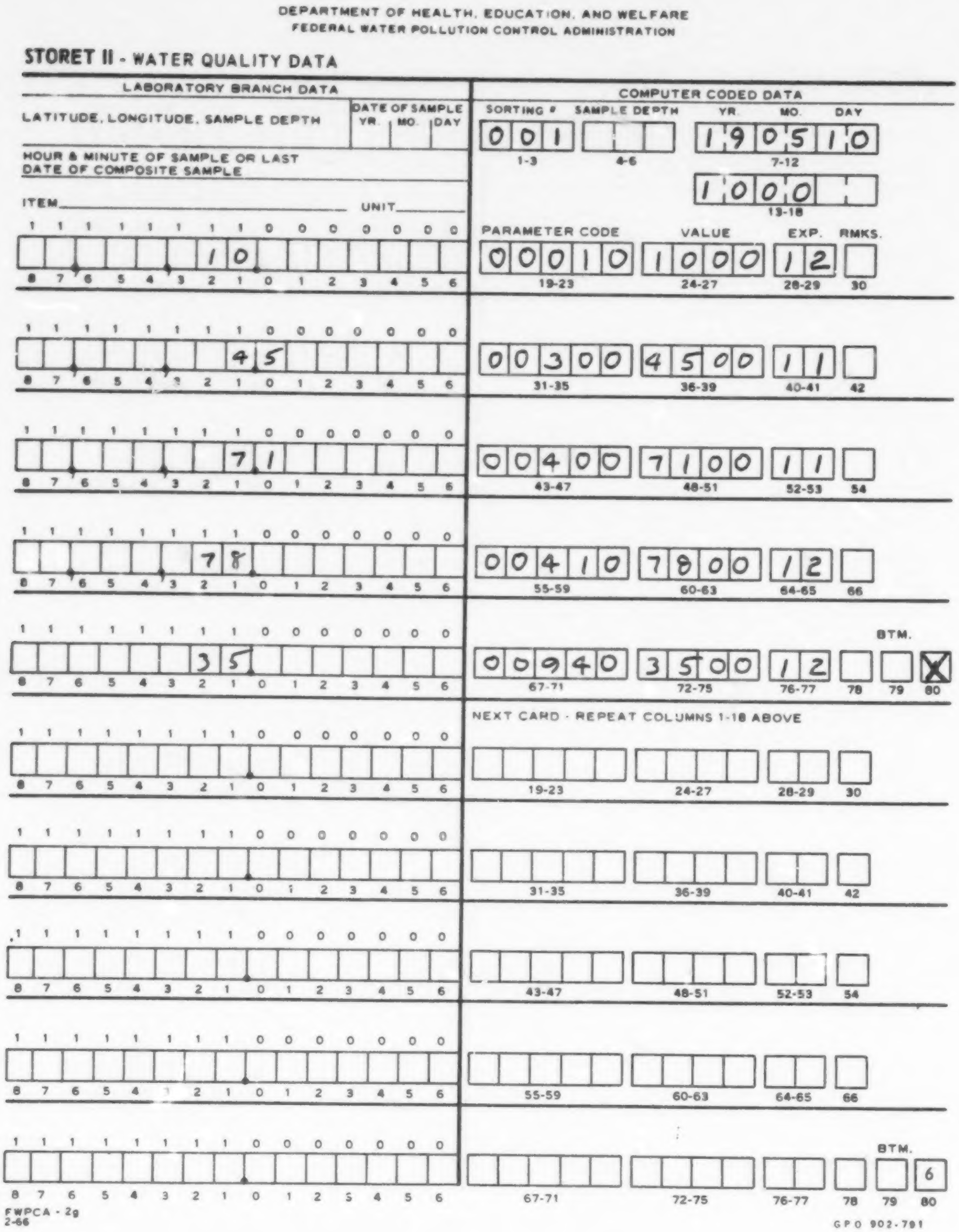
DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - HEADER CARD V

SORTING (1-3)	4-6	DESCRIPTION (7-78)	LINE 80
701	BLANK	DESCRIPTION	0 5
701	BLANK	CARDS	1 5
701	BLANK	FOR	2 5
701	BLANK	STATION	3 5
701	BLANK	LOCATION	4 5
701	BLANK	013	5 5
	BLANK		6 5
	BLANK		7 5
	BLANK		8 5
	BLANK		9 5
	BLANK		J 5

FWPCA - 2f
2-66

FIGURE 47



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - WATER QUALITY DATA

LABORATORY BRANCH DATA

LATITUDE, LONGITUDE, SAMPLE DEPTH — DATE OF SAMPLE: YR. ☐ MO. ☐ DAY ☐

HOUR & MINUTE OF SAMPLE OR LAST DATE OF COMPOSITE SAMPLE

ITEM________________ UNIT________

COMPUTER CODED DATA

SORTING #	SAMPLE DEPTH	YR. MO. DAY
001	☐☐☐	190510
1-3	4-6	7-12
		1000
		13-18

Laboratory scale (1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 / 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6)	PARAMETER CODE	VALUE	EXP.	RMKS.
10	00010 (19-23)	1000 (24-27)	12 (28-29)	☐ (30)
45	00300 (31-35)	4500 (36-39)	11 (40-41)	☐ (42)
71	00400 (43-47)	7100 (48-51)	11 (52-53)	☐ (54)
78	00410 (55-59)	7800 (60-63)	12 (64-65)	☐ (66)
35	00940 (67-71)	3500 (72-75)	12 (76-77)	☐ (78) ☐ (79) BTM. ☒ (80)

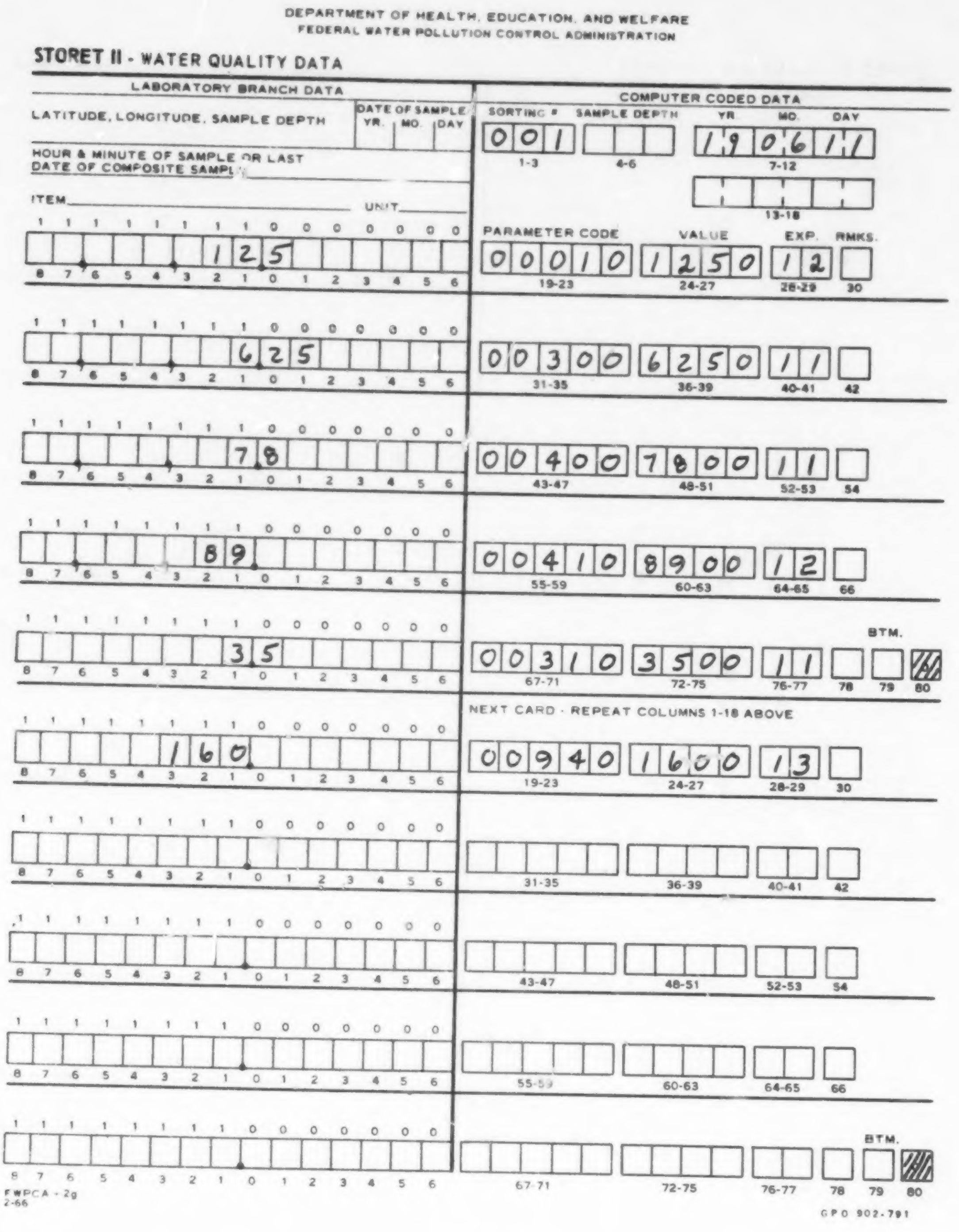
NEXT CARD - REPEAT COLUMNS 1-18 ABOVE

Laboratory scale (1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 / 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6)	PARAMETER CODE	VALUE	EXP.	RMKS.
	☐ (19-23)	☐ (24-27)	☐ (28-29)	☐ (30)
	☐ (31-35)	☐ (36-39)	☐ (40-41)	☐ (42)
	☐ (43-47)	☐ (48-51)	☐ (52-53)	☐ (54)
	☐ (55-59)	☐ (60-63)	☐ (64-65)	☐ (66)
	☐ (67-71)	☐ (72-75)	☐ (76-77)	☐ (78) ☐ (79) BTM. 6 (80)

FWPCA - 2g
2-66

GPO 902-791

FIGURE 48



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - WATER QUALITY DATA

LABORATORY BRANCH DATA

LATITUDE, LONGITUDE, SAMPLE DEPTH

DATE OF SAMPLE YR. MO. DAY

HOUR & MINUTE OF SAMPLE OR LAST DATE OF COMPOSITE SAMPLE

ITEM ______ UNIT ______

COMPUTER CODED DATA

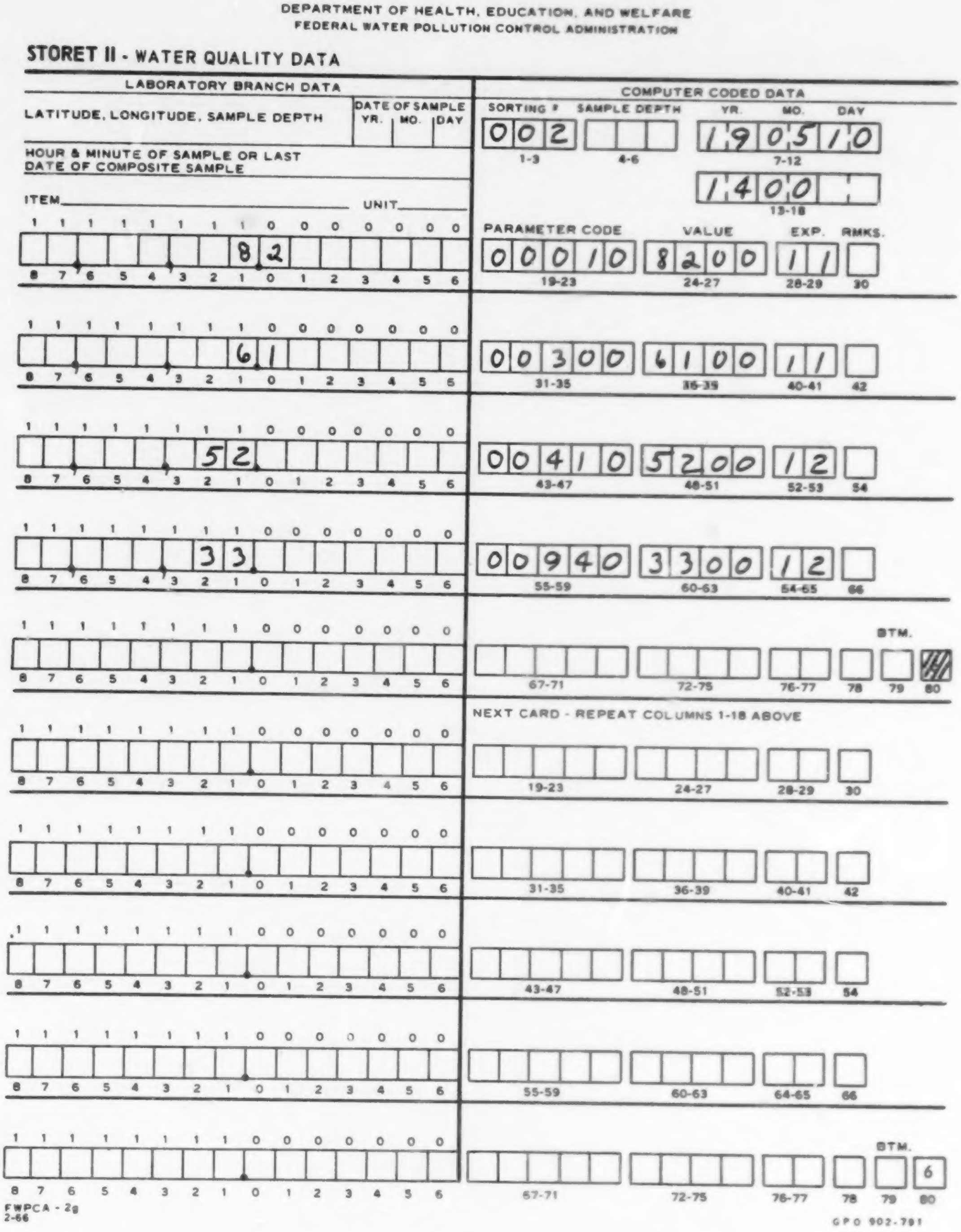
SORTING #	SAMPLE DEPTH	YR.	MO.	DAY
001 1-3	 4-6	19	06	11
		7-12		
		13-18		

1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	PARAMETER CODE	VALUE	EXP.	RMKS.
125	00010 19-23	1250 24-27	12 28-29	☐ 30
625	00300 31-35	6250 36-39	11 40-41	☐ 42
78	00400 43-47	7800 48-51	11 52-53	☐ 54
89	00410 55-59	8900 60-63	12 64-65	☐ 66
35	00310 67-71	3500 72-75	11 76-77	☐ 78 ☐ 79 BTM. ▨ 80
	NEXT CARD - REPEAT COLUMNS 1-18 ABOVE			
160	00940 19-23	1600 24-27	13 28-29	☐ 30
	 31-35	 36-39	 40-41	☐ 42
	 43-47	 48-51	 52-53	☐ 54
	 55-59	 60-63	 64-65	☐ 66
	 67-71	 72-75	 76-77	☐ 78 ☐ 79 BTM. ▨ 80

FWPCA - 2g
2-66

GPO 902-791

FIGURE 49



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - WATER QUALITY DATA

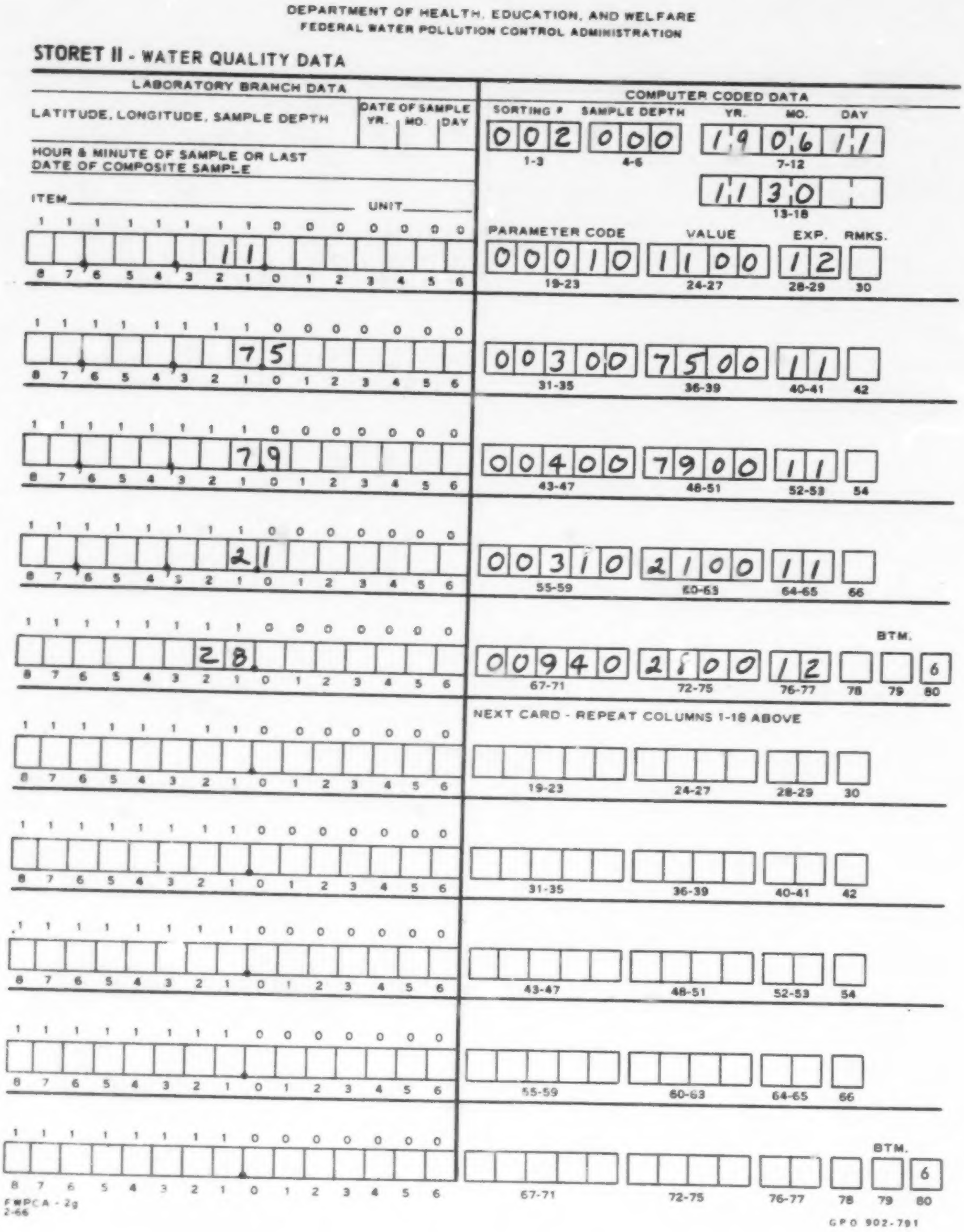
LABORATORY BRANCH DATA	COMPUTER CODED DATA
LATITUDE, LONGITUDE, SAMPLE DEPTH / DATE OF SAMPLE YR. MO. DAY	SORTING # 002 (1-3) / SAMPLE DEPTH (4-6) / YR. MO. DAY 190510 (7-12)
HOUR & MINUTE OF SAMPLE OR LAST DATE OF COMPOSITE SAMPLE	1400 (13-18)
ITEM________ UNIT______	

1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	PARAMETER CODE	VALUE	EXP.	RMKS.		
							8	2							00010	8200	11			
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6	19-23	24-27	28-29	30		
1	1	1	1	1	1	1	1	0	0	0	0	0	0	0						
							6	1							00300	6100	11			
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6	31-35	36-39	40-41	42		
1	1	1	1	1	1	1	1	0	0	0	0	0	0	0						
						5	2								00410	5200	12			
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6	43-47	48-51	52-53	54		
1	1	1	1	1	1	1	1	0	0	0	0	0	0	0						
						3	3								00940	3300	12			
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6	55-59	60-63	64-65	66		
1	1	1	1	1	1	1	1	0	0	0	0	0	0	0					BTM.	
																				▨
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6	67-71	72-75	76-77	78	79	80
															NEXT CARD - REPEAT COLUMNS 1-18 ABOVE					
1	1	1	1	1	1	1	1	0	0	0	0	0	0	0						
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6	19-23	24-27	28-29	30		
1	1	1	1	1	1	1	1	0	0	0	0	0	0	0						
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6	31-35	36-39	40-41	42		
1	1	1	1	1	1	1	1	0	0	0	0	0	0	0						
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6	43-47	48-51	52-53	54		
1	1	1	1	1	1	1	1	0	0	0	0	0	0	0						
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6	55-59	60-63	64-65	66		
1	1	1	1	1	1	1	1	0	0	0	0	0	0	0					BTM.	
																				6
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6	67-71	72-75	76-77	78	79	80

FWPCA - 2g
2-66

GPO 902-791

FIGURE 50



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - WATER QUALITY DATA

LABORATORY BRANCH DATA

LATITUDE, LONGITUDE, SAMPLE DEPTH — DATE OF SAMPLE: YR. | MO. | DAY

HOUR & MINUTE OF SAMPLE OR LAST DATE OF COMPOSITE SAMPLE

ITEM ______ UNIT ______

COMPUTER CODED DATA

SORTING # (1-3)	SAMPLE DEPTH (4-6)	YR. MO. DAY (7-12)
002	000	190611

13-18: 1130

Laboratory (1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 / 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6)	PARAMETER CODE	VALUE	EXP.	RMKS.
11	00010 (19-23)	1100 (24-27)	12 (28-29)	(30)
75	00300 (31-35)	7500 (36-39)	11 (40-41)	(42)
79	00400 (43-47)	7900 (48-51)	11 (52-53)	(54)
21	00310 (55-59)	2100 (60-63)	11 (64-65)	(66)
28	00940 (67-71)	2800 (72-75)	12 (76-77)	(78) (79) BTM. 6 (80)

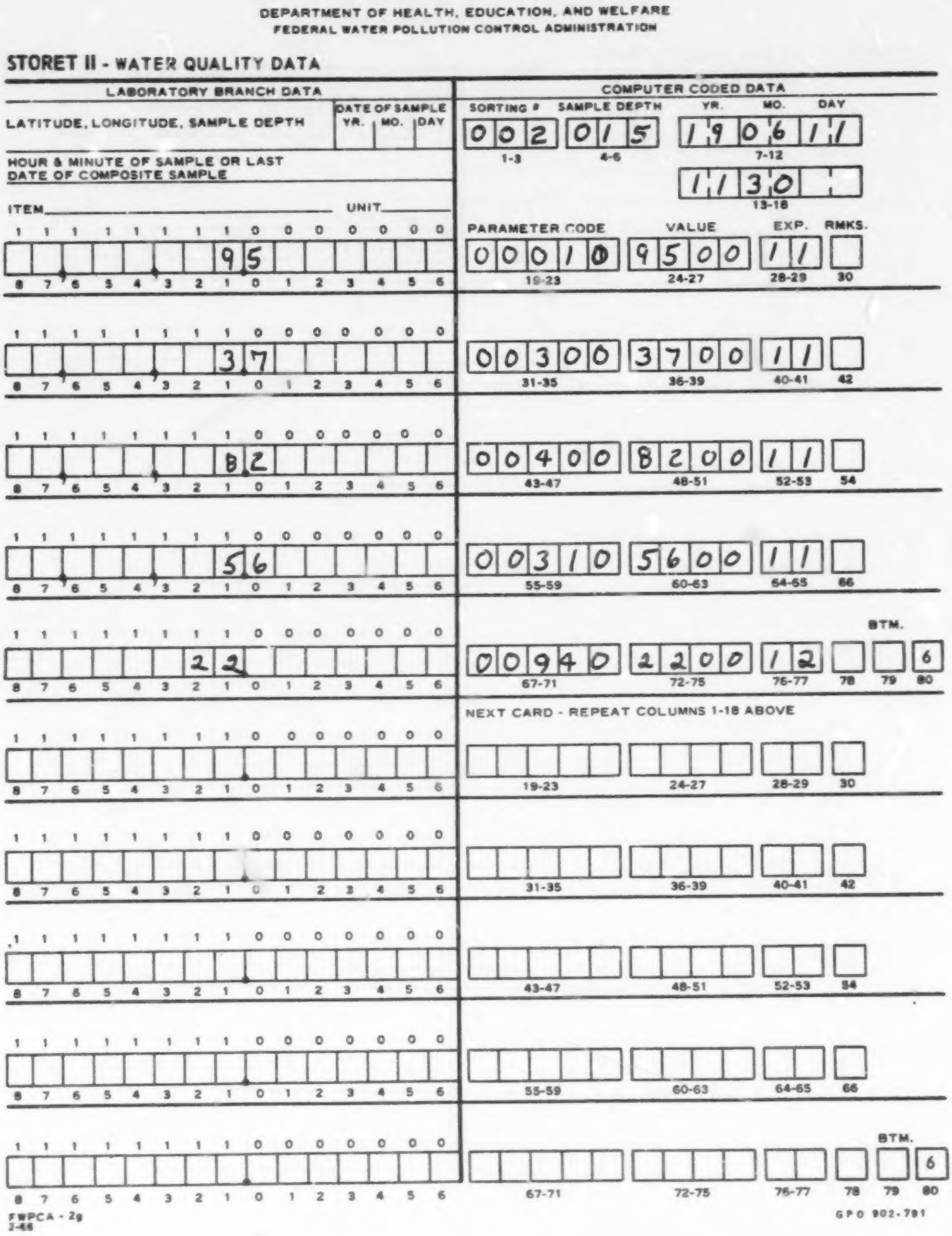
NEXT CARD - REPEAT COLUMNS 1-18 ABOVE

Laboratory (1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 / 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6)	PARAMETER CODE	VALUE	EXP.	RMKS.
	(19-23)	(24-27)	(28-29)	(30)
	(31-35)	(36-39)	(40-41)	(42)
	(43-47)	(48-51)	(52-53)	(54)
	(55-59)	(60-63)	(64-65)	(66)
	(67-71)	(72-75)	(76-77)	(78) (79) BTM. 6 (80)

FWPCA - 2g
2-66

GPO 902-791

FIGURE 51



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - WATER QUALITY DATA

LABORATORY BRANCH DATA

LATITUDE, LONGITUDE, SAMPLE DEPTH — DATE OF SAMPLE: YR. | MO. | DAY

HOUR & MINUTE OF SAMPLE OR LAST DATE OF COMPOSITE SAMPLE

ITEM________________ UNIT________

1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6
							9	5						
							3	7						
							8	2						
							5	6						
						2	2							

COMPUTER CODED DATA

SORTING #	SAMPLE DEPTH	YR. MO. DAY
002	015	19 06 11
1-3	4-6	7-12
		1130
		13-18

PARAMETER CODE	VALUE	EXP.	RMKS.		
00010	9500	11			
19-23	24-27	28-29	30		
00300	3700	11			
31-35	36-39	40-41	42		
00400	8200	11			
43-47	48-51	52-53	54		
00310	5600	11			
55-59	60-63	64-65	66		
				BTM.	
00940	2200	12			6
67-71	72-75	76-77	78	79	80

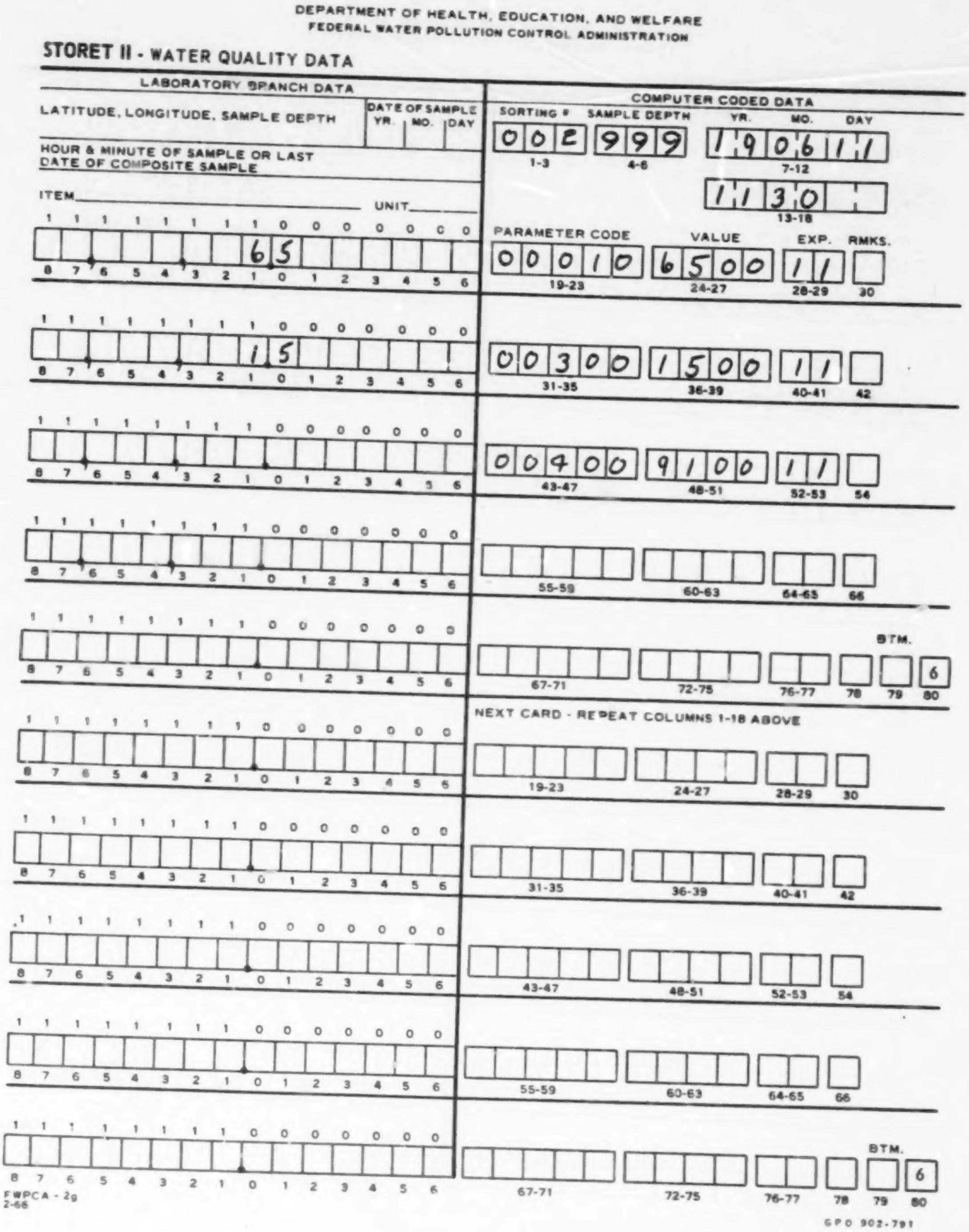
NEXT CARD - REPEAT COLUMNS 1-18 ABOVE

19-23	24-27	28-29	30		
31-35	36-39	40-41	42		
43-47	48-51	52-53	54		
55-59	60-63	64-65	66		
				BTM.	
					6
67-71	72-75	76-77	78	79	80

FWPCA - 2g
2-68

GPO 902-791

FIGURE 52



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - WATER QUALITY DATA

LABORATORY BRANCH DATA

LATITUDE, LONGITUDE, SAMPLE DEPTH — DATE OF SAMPLE: YR. MO. DAY

HOUR & MINUTE OF SAMPLE OR LAST DATE OF COMPOSITE SAMPLE

ITEM ____ UNIT ____

1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
							6	5						
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6
1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
							1	5						
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6
1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6
1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6
1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6
1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6
1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6
1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6
1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6
1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6

FWPCA - 2g
2-66

COMPUTER CODED DATA

SORTING #	SAMPLE DEPTH	YR. MO. DAY
002	999	190611
1-3	4-6	7-12
		1130
		13-18

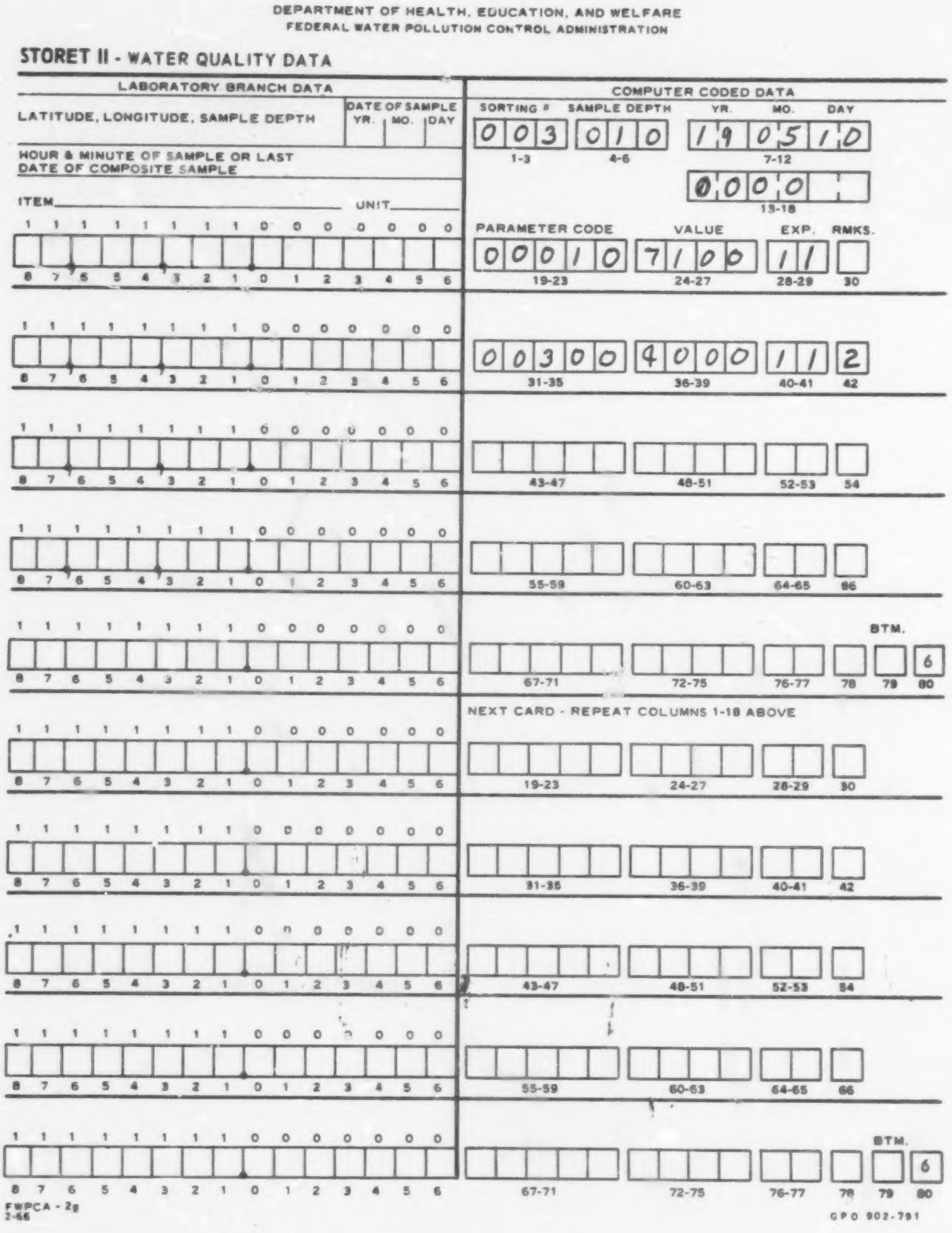
PARAMETER CODE	VALUE	EXP.	RMKS.		
00010	6500	11			
19-23	24-27	28-29	30		
00300	1500	11			
31-35	36-39	40-41	42		
00400	9100	11			
43-47	48-51	52-53	54		
55-59	60-63	64-65	66		
				BTM.	
					6
67-71	72-75	76-77	78	79	80

NEXT CARD - REPEAT COLUMNS 1-18 ABOVE

19-23	24-27	28-29	30		
31-35	36-39	40-41	42		
43-47	48-51	52-53	54		
55-59	60-63	64-65	66		
				BTM.	
					6
67-71	72-75	76-77	78	79	80

GPO 902-791

FIGURE 53



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - WATER QUALITY DATA

LABORATORY BRANCH DATA

LATITUDE, LONGITUDE, SAMPLE DEPTH — DATE OF SAMPLE: YR. | MO. | DAY

HOUR & MINUTE OF SAMPLE OR LAST DATE OF COMPOSITE SAMPLE

ITEM________ UNIT________

1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
8 7 6 5 4 3 2 1 0 1 2 3 4 5 6

COMPUTER CODED DATA

SORTING #	SAMPLE DEPTH	YR. MO. DAY
003	010	190510
1-3	4-6	7-12
		0000
		13-18

PARAMETER CODE	VALUE	EXP.	RMKS.
00010	7100	11	
19-23	24-27	28-29	30
00300	4000	11	2
31-35	36-39	40-41	42
43-47	48-51	52-53	54
55-59	60-63	64-65	66
67-71	72-75	76-77	78

BTM. 79 | 6 80

NEXT CARD - REPEAT COLUMNS 1-18 ABOVE

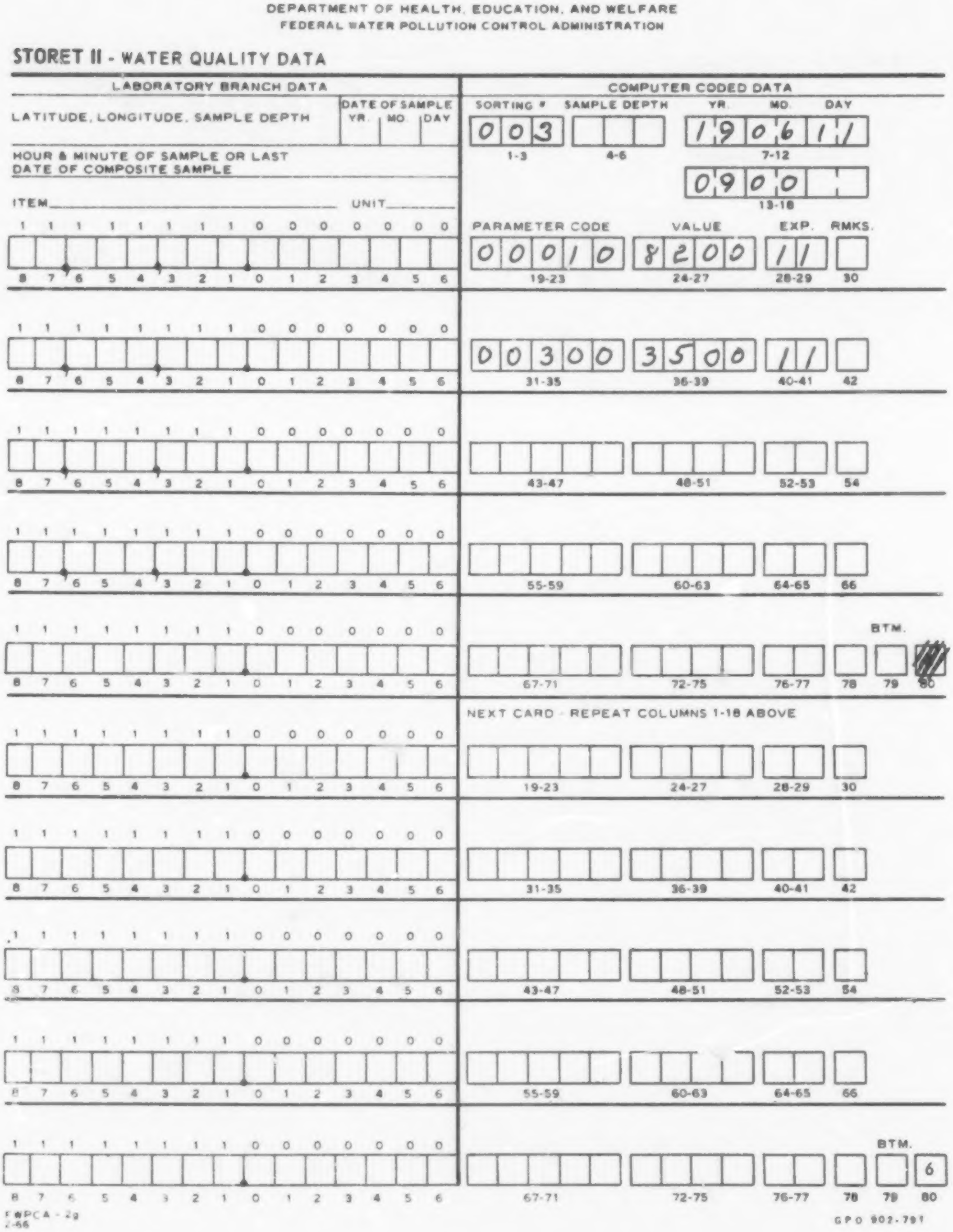
19-23	24-27	28-29	30
31-35	36-39	40-41	42
43-47	48-51	52-53	54
55-59	60-63	64-65	66
67-71	72-75	76-77	78

BTM. 79 | 6 80

FWPCA - 2g
2-66

GPO 902-791

FIGURE 54



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - WATER QUALITY DATA

LABORATORY BRANCH DATA				COMPUTER CODED DATA		
LATITUDE, LONGITUDE, SAMPLE DEPTH	DATE OF SAMPLE YR.	MO.	DAY	SORTING #	SAMPLE DEPTH	YR. MO. DAY
				003 (1-3)	(4-6)	190611 (7-12)
HOUR & MINUTE OF SAMPLE OR LAST DATE OF COMPOSITE SAMPLE						0900 (13-18)

ITEM________ UNIT________

1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
8 7 6 5 4 3 2 1 0 1 2 3 4 5 6

PARAMETER CODE	VALUE	EXP.	RMKS.	
00010 (19-23)	8200 (24-27)	11 (28-29)	(30)	
00300 (31-35)	3500 (36-39)	11 (40-41)	(42)	
(43-47)	(48-51)	(52-53)	(54)	
(55-59)	(60-63)	(64-65)	(66)	
(67-71)	(72-75)	(76-77)	(78)	BTM. (79) ▨ (80)

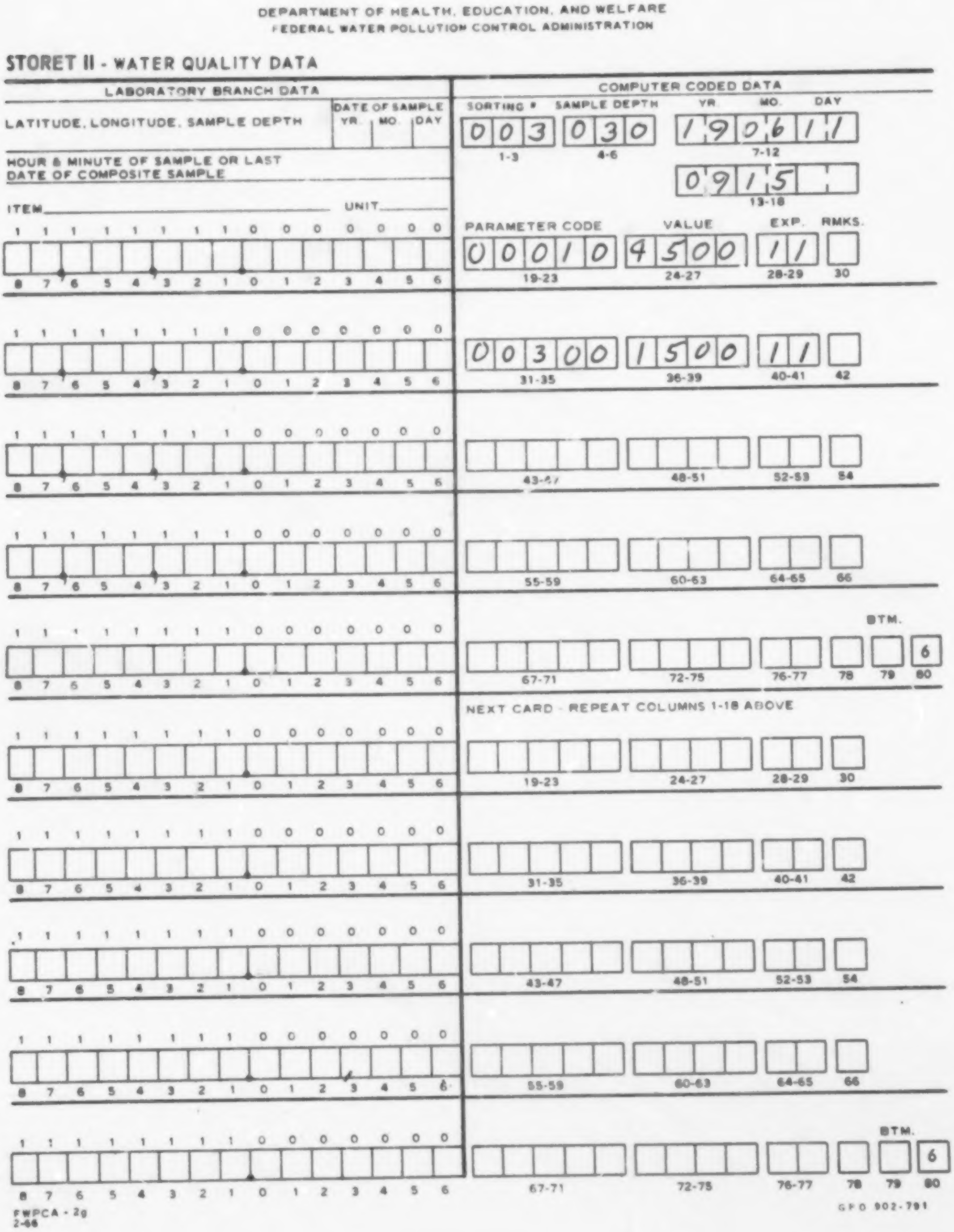
NEXT CARD - REPEAT COLUMNS 1-18 ABOVE

(19-23)	(24-27)	(28-29)	(30)	
(31-35)	(36-39)	(40-41)	(42)	
(43-47)	(48-51)	(52-53)	(54)	
(55-59)	(60-63)	(64-65)	(66)	
(67-71)	(72-75)	(76-77)	(78)	BTM. (79) 6 (80)

FWPCA - 2g
2-66

GPO 902-791

FIGURE 55



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - WATER QUALITY DATA

LABORATORY BRANCH DATA

LATITUDE, LONGITUDE, SAMPLE DEPTH — DATE OF SAMPLE: YR. MO. DAY

HOUR & MINUTE OF SAMPLE OR LAST DATE OF COMPOSITE SAMPLE

ITEM__________ UNIT__________

COMPUTER CODED DATA

SORTING #	SAMPLE DEPTH	YR. MO. DAY
003	030	190611
1-3	4-6	7-12
		0915
		13-18

LABORATORY BRANCH DATA	PARAMETER CODE	VALUE	EXP.	RMKS.	BTM.	
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	00010 19-23	4500 24-27	11 28-29	30		
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	00300 31-35	1500 36-39	11 40-41	42		
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	43-47	48-51	52-53	54		
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	55-59	60-63	64-65	66		
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	67-71	72-75	76-77	78	79	6 80

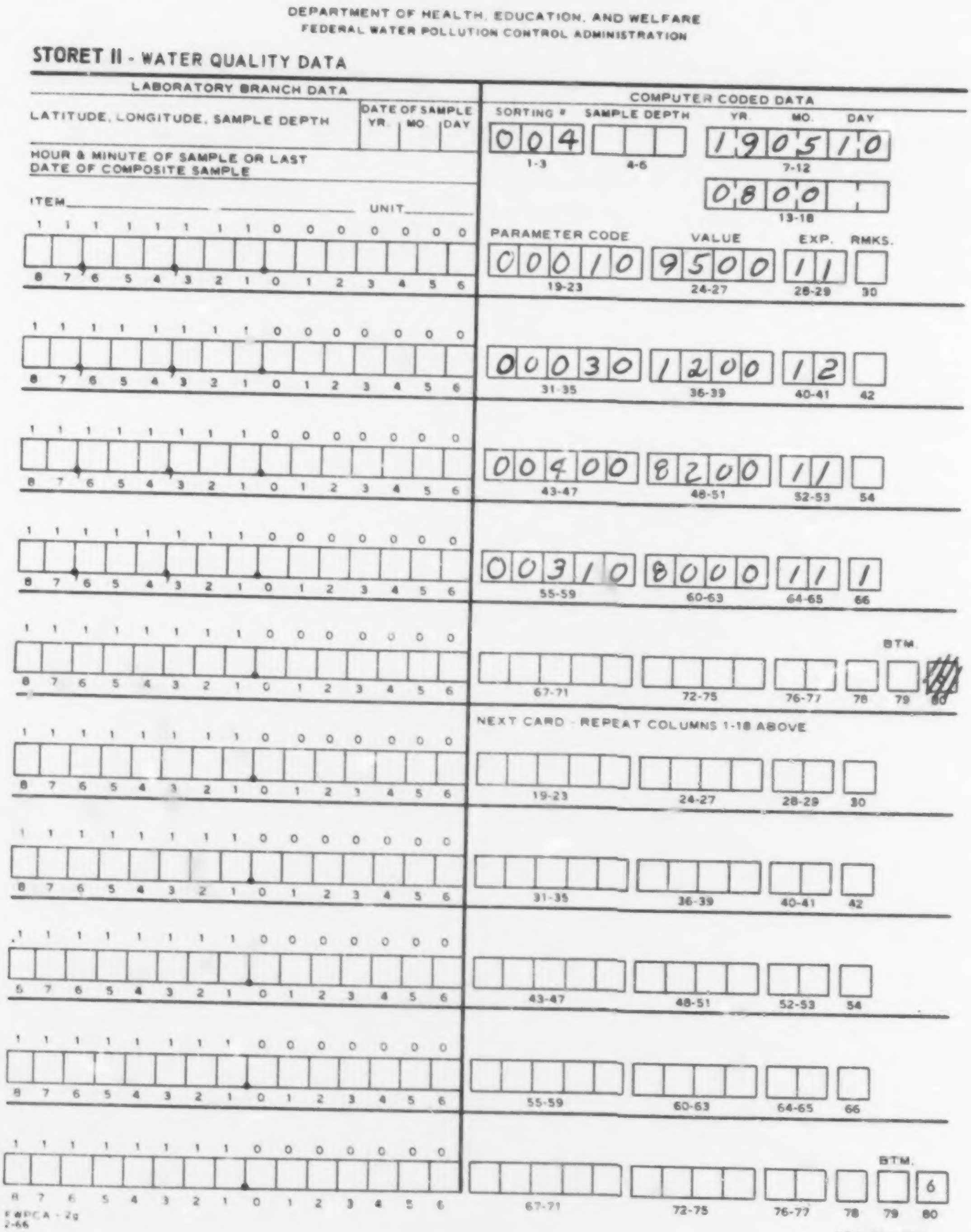
NEXT CARD - REPEAT COLUMNS 1-18 ABOVE

LABORATORY BRANCH DATA	PARAMETER CODE	VALUE	EXP.	RMKS.	BTM.	
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	19-23	24-27	28-29	30		
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	31-35	36-39	40-41	42		
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	43-47	48-51	52-53	54		
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	55-59	60-63	64-65	66		
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	67-71	72-75	76-77	78	79	6 80

FWPCA - 2g
2-66

GPO 902-791

FIGURE 56



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - WATER QUALITY DATA

LABORATORY BRANCH DATA

LATITUDE, LONGITUDE, SAMPLE DEPTH — DATE OF SAMPLE YR. MO. DAY

HOUR & MINUTE OF SAMPLE OR LAST DATE OF COMPOSITE SAMPLE

ITEM __________ UNIT ________

1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
8 7 6 5 4 3 2 1 0 1 2 3 4 5 6

1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
8 7 6 5 4 3 2 1 0 1 2 3 4 5 6

1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
8 7 6 5 4 3 2 1 0 1 2 3 4 5 6

1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
8 7 6 5 4 3 2 1 0 1 2 3 4 5 6

1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
8 7 6 5 4 3 2 1 0 1 2 3 4 5 6

1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
8 7 6 5 4 3 2 1 0 1 2 3 4 5 6

1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
8 7 6 5 4 3 2 1 0 1 2 3 4 5 6

1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
8 7 6 5 4 3 2 1 0 1 2 3 4 5 6

1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
8 7 6 5 4 3 2 1 0 1 2 3 4 5 6

1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
8 7 6 5 4 3 2 1 0 1 2 3 4 5 6

FWPCA - 2g
2-66

COMPUTER CODED DATA

SORTING #	SAMPLE DEPTH	YR.	MO.	DAY
004		19	05	10
1-3	4-6	7-12		
		0800		
		13-18		

PARAMETER CODE	VALUE	EXP.	RMKS.	BTM.	
00010	9500	11			
19-23	24-27	28-29	30		
00030	1200	12			
31-35	36-39	40-41	42		
00400	8200	11			
43-47	48-51	52-53	54		
00310	8000	11	1		
55-59	60-63	64-65	66		
					▨
67-71	72-75	76-77	78	79	80

NEXT CARD - REPEAT COLUMNS 1-18 ABOVE

				BTM.	
19-23	24-27	28-29	30		
31-35	36-39	40-41	42		
43-47	48-51	52-53	54		
55-59	60-63	64-65	66		
					6
67-71	72-75	76-77	78	79	80

GPO 902-791

FIGURE 57

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - WATER QUALITY DATA

LABORATORY BRANCH DATA

LATITUDE, LONGITUDE, SAMPLE DEPTH

DATE OF SAMPLE: YR. MO. DAY

HOUR & MINUTE OF SAMPLE OR LAST DATE OF COMPOSITE SAMPLE

ITEM____________ UNIT______

COMPUTER CODED DATA

SORTING #	SAMPLE DEPTH	YR. MO. DAY
004	000	190611
1-3	4-6	7-12
		0800
		13-18

Left grid (1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 / 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6)	PARAMETER CODE	VALUE	EXP.	RMKS.		
	00010	4100	11			
	19-23	24-27	28-29	30		
	00300	3100	11			
	31-35	36-39	40-41	42		
	00400	7600	11			
	43-47	48-51	52-53	54		
155 (in boxes 3, 2, 1)	00940	1550	13			
	55-59	60-63	64-65	66		
						BTM.
						6
	67-71	72-75	76-77	78	79	80

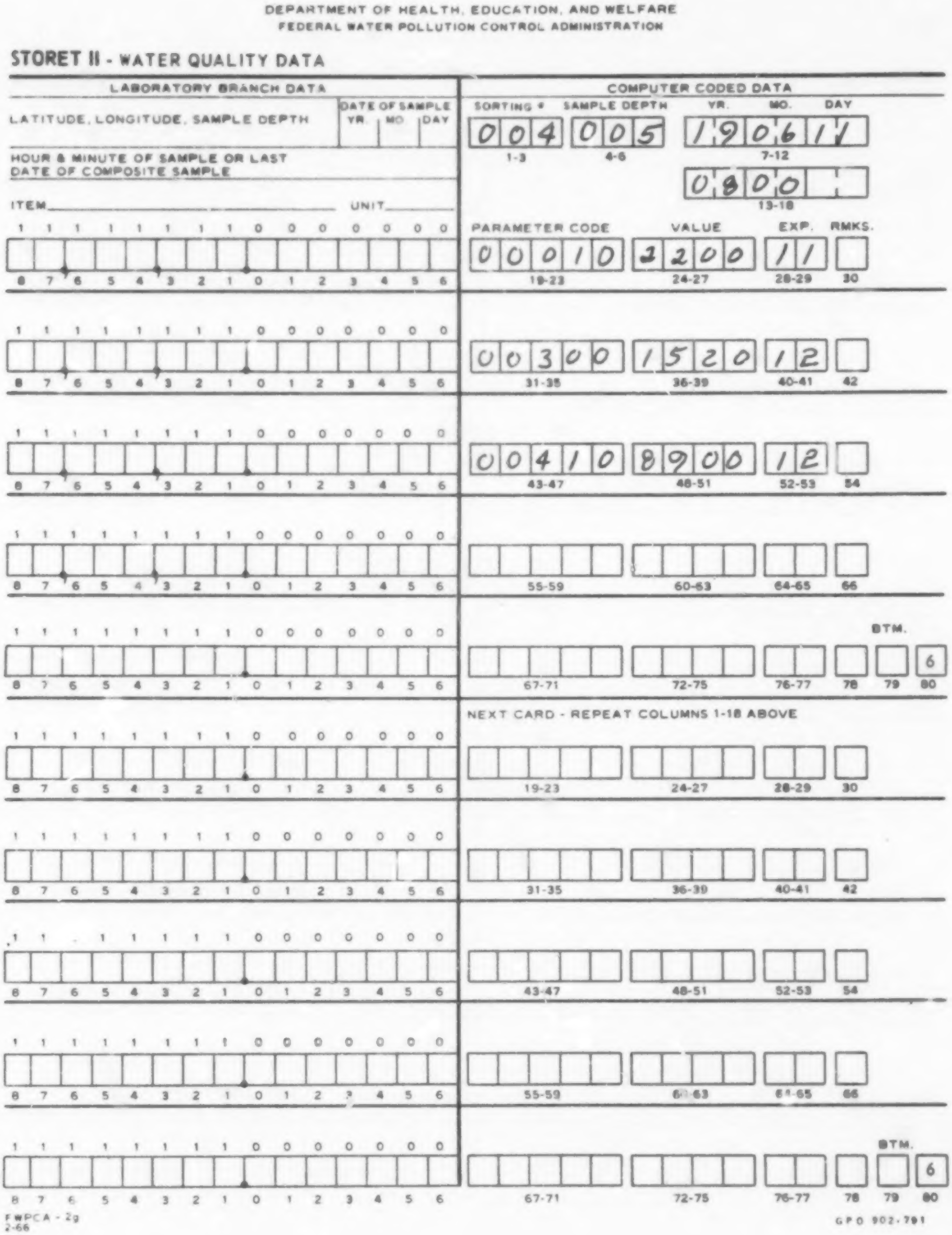
NEXT CARD - REPEAT COLUMNS 1-18 ABOVE

Left grid (1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 / 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6)						
	19-23	24-27	28-29	30		
	31-35	36-39	40-41	42		
	43-47	48-51	52-53	54		
	55-59	60-63	64-65	66		
						BTM.
						6
	67-71	72-75	76-77	78	79	80

FWPCA - 2g
2-66

GPO 902-791

FIGURE 58



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - WATER QUALITY DATA

LABORATORY BRANCH DATA

LATITUDE, LONGITUDE, SAMPLE DEPTH — DATE OF SAMPLE: YR. | MO | DAY

HOUR & MINUTE OF SAMPLE OR LAST DATE OF COMPOSITE SAMPLE

ITEM________ UNIT________

COMPUTER CODED DATA

SORTING #	SAMPLE DEPTH	YR. MO. DAY
004	005	190611
1-3	4-6	7-12
		0800
		13-18

	PARAMETER CODE	VALUE	EXP.	RMKS.	BTM.	
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	00010 19-23	2200 24-27	11 28-29	30		
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	00300 31-35	1520 36-39	12 40-41	42		
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	00410 43-47	8900 48-51	12 52-53	54		
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	55-59	60-63	64-65	66		
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	67-71	72-75	76-77	78	79	6 80

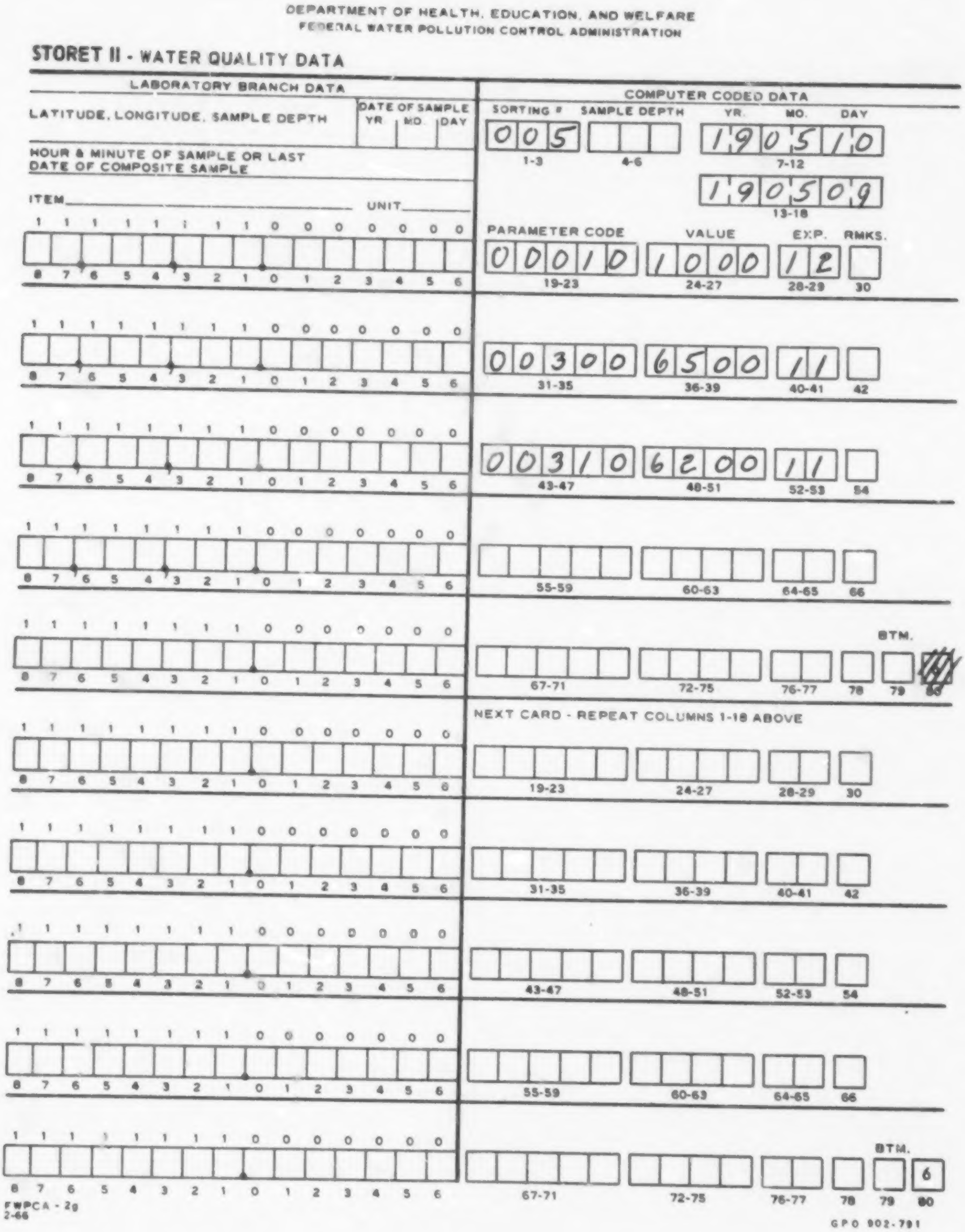
NEXT CARD - REPEAT COLUMNS 1-18 ABOVE

1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	19-23	24-27	28-29	30		
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	31-35	36-39	40-41	42		
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	43-47	48-51	52-53	54		
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	55-59	60-63	64-65	66		
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	67-71	72-75	76-77	78	BTM. 79	6 80

FWPCA - 2g
2-66

GPO 902-791

FIGURE 59



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - WATER QUALITY DATA

LABORATORY BRANCH DATA

LATITUDE, LONGITUDE, SAMPLE DEPTH — DATE OF SAMPLE: YR. MO. DAY

HOUR & MINUTE OF SAMPLE OR LAST DATE OF COMPOSITE SAMPLE

ITEM__________ UNIT__________

1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
8 7 6 5 4 3 2 1 0 1 2 3 4 5 6

COMPUTER CODED DATA

SORTING #	SAMPLE DEPTH	YR. MO. DAY
005		19 05 10
1-3	4-6	7-12
		19 05 09
		13-18

PARAMETER CODE	VALUE	EXP.	RMKS.
00010	1000	12	
19-23	24-27	28-29	30
00300	6500	11	
31-35	36-39	40-41	42
00310	6200	11	
43-47	48-51	52-53	54
55-59	60-63	64-65	66
67-71	72-75	76-77	78

BTM. 79 80

NEXT CARD - REPEAT COLUMNS 1-18 ABOVE

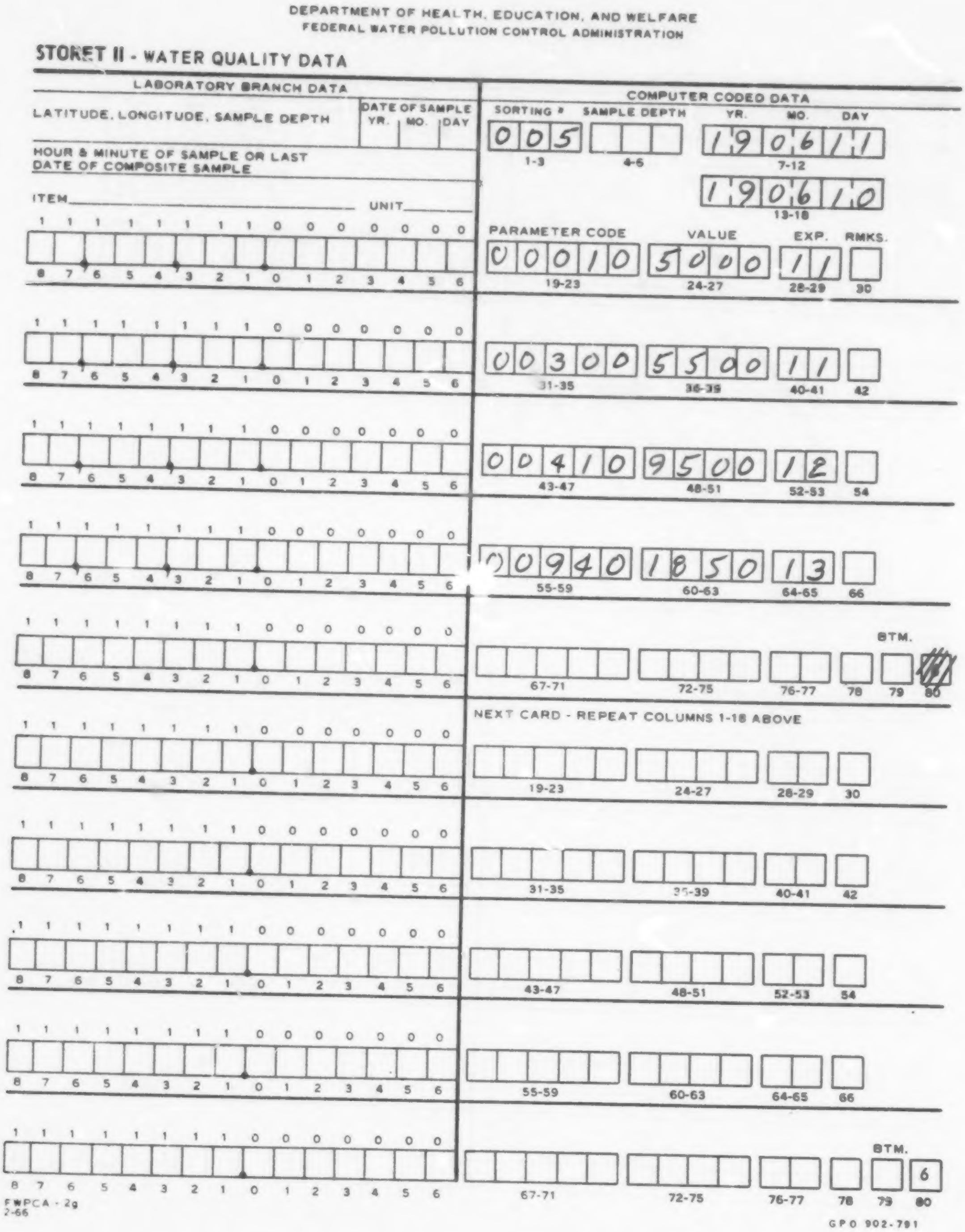
19-23	24-27	28-29	30
31-35	36-39	40-41	42
43-47	48-51	52-53	54
55-59	60-63	64-65	66
67-71	72-75	76-77	78

BTM. 79 80: 6

FWPCA - 2g
2-66

GPO 902-791

FIGURE 60



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - WATER QUALITY DATA

LABORATORY BRANCH DATA

LATITUDE, LONGITUDE, SAMPLE DEPTH — DATE OF SAMPLE: YR. | MO. | DAY

HOUR & MINUTE OF SAMPLE OR LAST DATE OF COMPOSITE SAMPLE

ITEM ______ UNIT ______

1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6

COMPUTER CODED DATA

SORTING #	SAMPLE DEPTH	YR.	MO.	DAY
005		19	06	11
1-3	4-6	7-12		
		19	06	10
		13-18		

PARAMETER CODE	VALUE	EXP.	RMKS.
00010	5000	11	
19-23	24-27	28-29	30
00300	5500	11	
31-35	36-39	40-41	42
00410	9500	12	
43-47	48-51	52-53	54
00940	1850	13	
55-59	60-63	64-65	66
67-71	72-75	76-77	78, 79, BTM. 80

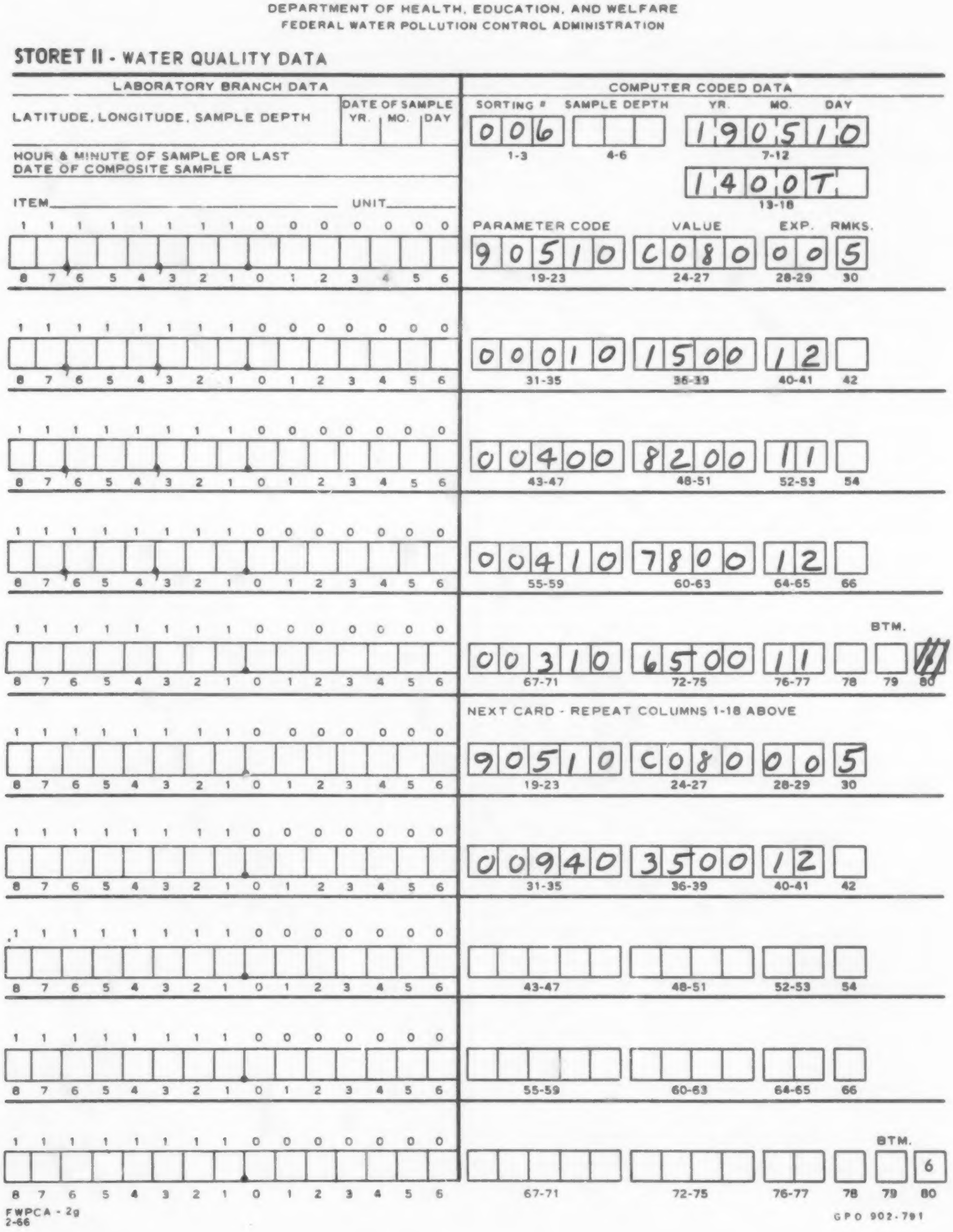
NEXT CARD - REPEAT COLUMNS 1-18 ABOVE

19-23	24-27	28-29	30
31-35	35-39	40-41	42
43-47	48-51	52-53	54
55-59	60-63	64-65	66
67-71	72-75	76-77	78, 79, BTM. 80: 6

FWPCA - 2g
2-66

GPO 902-791

FIGURE 61



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

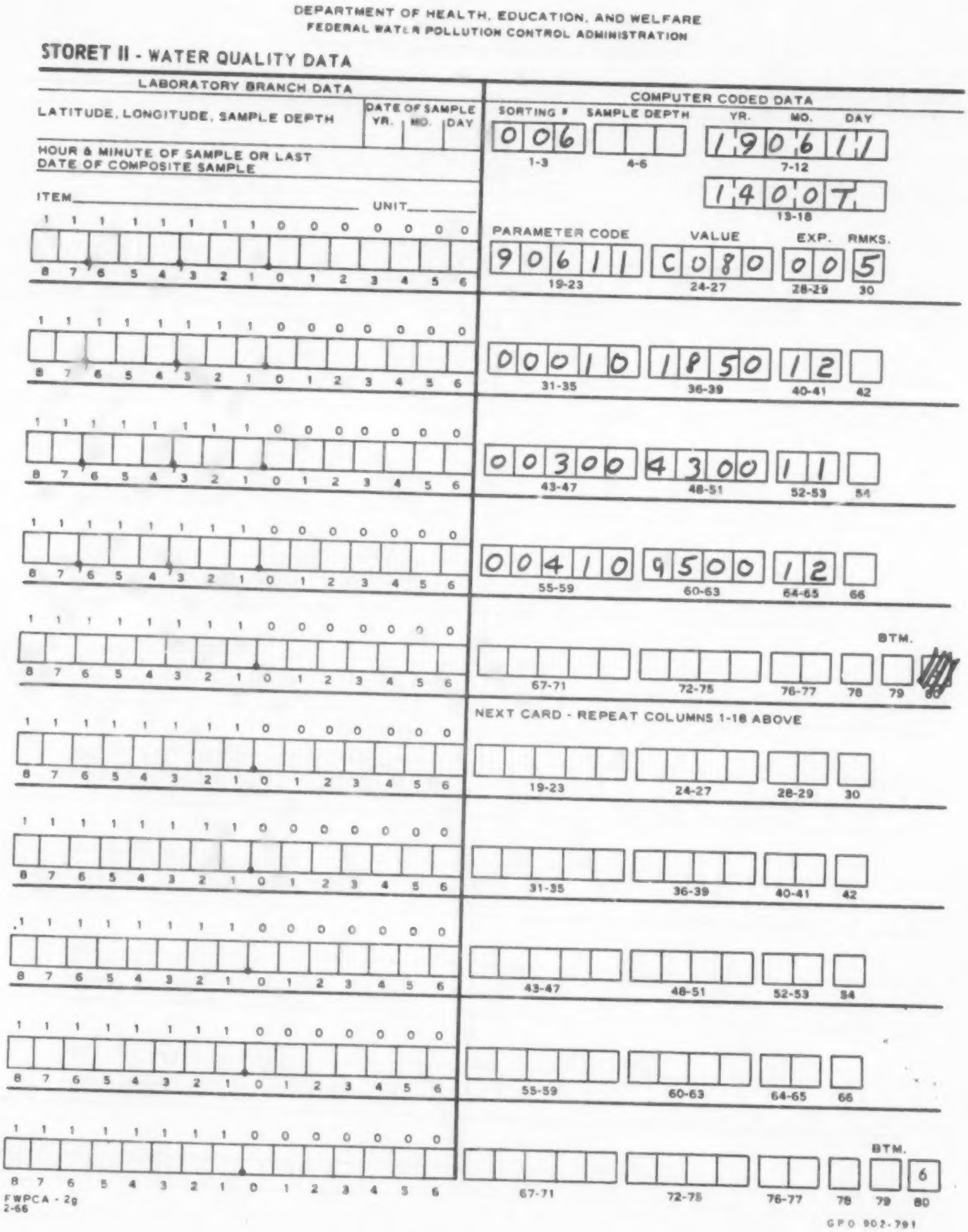
STORET II - WATER QUALITY DATA

LABORATORY BRANCH DATA		COMPUTER CODED DATA					
LATITUDE, LONGITUDE, SAMPLE DEPTH	DATE OF SAMPLE YR. MO. DAY	SORTING # 006 (1-3)	SAMPLE DEPTH (4-6)	YR. MO. DAY 190510 (7-12)			
HOUR & MINUTE OF SAMPLE OR LAST DATE OF COMPOSITE SAMPLE				1400T (13-18)			
ITEM______	UNIT______						
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6		PARAMETER CODE 90510 19-23	VALUE C080 24-27	EXP. 00 28-29	RMKS. 5 30		
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6		00010 31-35	1500 36-39	12 40-41	42		
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6		00400 43-47	8200 48-51	11 52-53	54		
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6		00410 55-59	7800 60-63	12 64-65	66		
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6		00310 67-71	6500 72-75	11 76-77	78	79	BTM. 80
		NEXT CARD - REPEAT COLUMNS 1-18 ABOVE					
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6		90510 19-23	C080 24-27	00 28-29	5 30		
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6		00940 31-35	3500 36-39	12 40-41	42		
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6		43-47	48-51	52-53	54		
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6		55-59	60-63	64-65	66		
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6		67-71	72-75	76-77	78	79	BTM. 6 80

FWPCA - 2g
2-66

GPO 902-791

FIGURE 62



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - WATER QUALITY DATA

LABORATORY BRANCH DATA	COMPUTER CODED DATA
LATITUDE, LONGITUDE, SAMPLE DEPTH — DATE OF SAMPLE YR. MO. DAY	SORTING # 006 (1-3) · SAMPLE DEPTH (4-6) · YR. MO. DAY 190611 (7-12)
HOUR & MINUTE OF SAMPLE OR LAST DATE OF COMPOSITE SAMPLE	1400T (13-18)
ITEM____ UNIT____	
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	PARAMETER CODE 90611 (19-23) · VALUE C080 (24-27) · EXP. 00 (28-29) · RMKS. 5 (30)
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	00010 (31-35) · 1850 (36-39) · 12 (40-41) · (42)
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	00300 (43-47) · 4300 (48-51) · 11 (52-53) · (54)
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	00410 (55-59) · 9500 (60-63) · 12 (64-65) · (66)
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	(67-71) · (72-75) · (76-77) · (78) · BTM. (79) · (80)
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	NEXT CARD - REPEAT COLUMNS 1-18 ABOVE (19-23) · (24-27) · (28-29) · (30)
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	(31-35) · (36-39) · (40-41) · (42)
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	(43-47) · (48-51) · (52-53) · (54)
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	(55-59) · (60-63) · (64-65) · (66)
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	(67-71) · (72-75) · (76-77) · (78) · BTM. (79) · 6 (80)

FWPCA - 2g
2-66

GPO 902-791

FIGURE 63

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - WATER QUALITY DATA

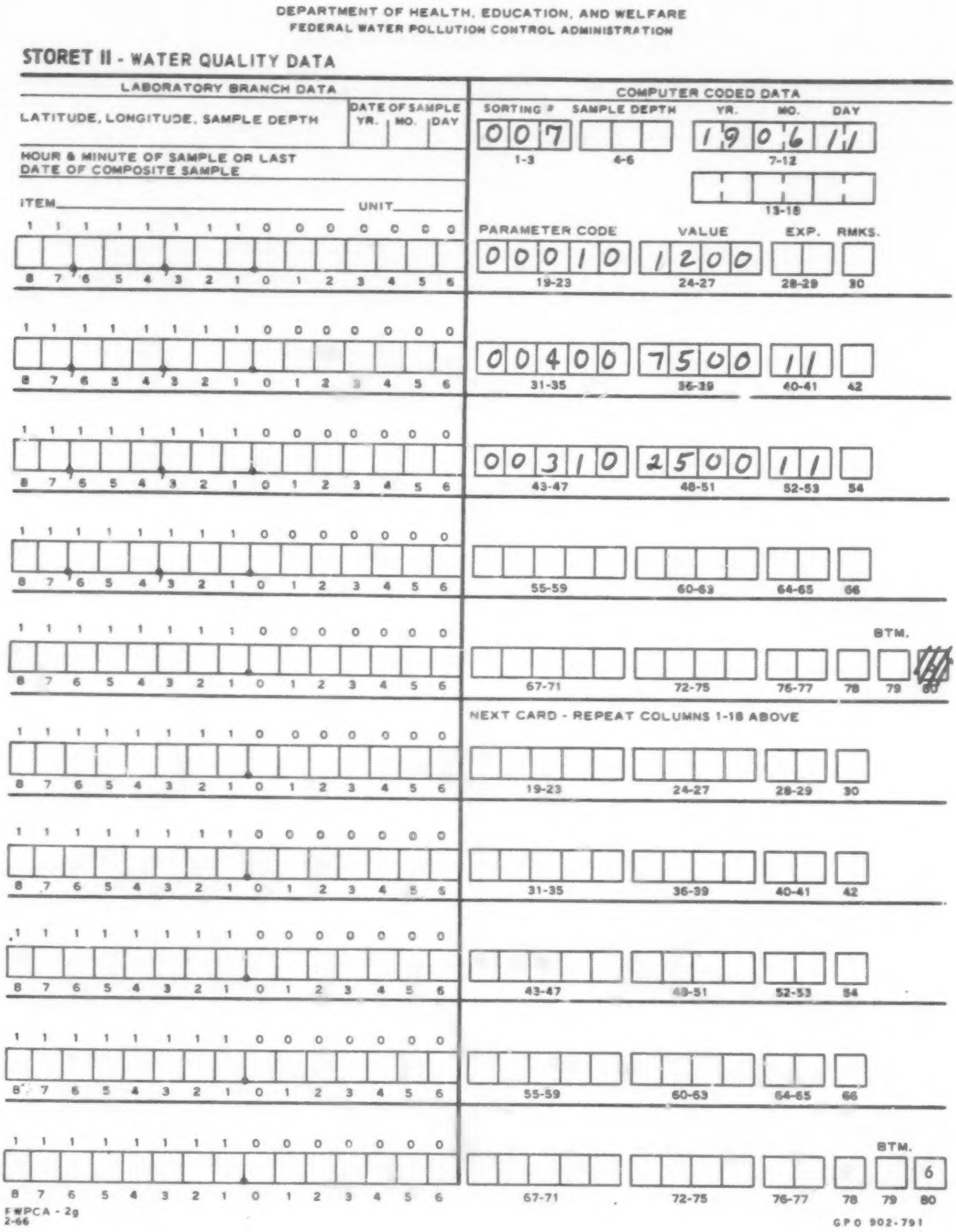
LABORATORY BRANCH DATA		COMPUTER CODED DATA		
LATITUDE, LONGITUDE, SAMPLE DEPTH	DATE OF SAMPLE YR. MO. DAY	SORTING # 007 1-3	SAMPLE DEPTH 4-6	YR. MO. DAY 190510 7-12
HOUR & MINUTE OF SAMPLE OR LAST DATE OF COMPOSITE SAMPLE				 13-18
ITEM________ UNIT________				

	PARAMETER CODE	VALUE	EXP.	RMKS.		BTM.	
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	00010 19-23	1360 24-27	12 28-29	30			
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	00300 31-35	8200 36-39	11 40-41	42			
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	00940 43-47	4000 48-51	12 52-53	54			
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	55-59	60-63	64-65	66			
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	67-71	72-75	76-77	78		79	80
	NEXT CARD - REPEAT COLUMNS 1-18 ABOVE						
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	19-23	24-27	28-29	30			
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	31-35	36-39	40-41	42			
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	43-47	48-51	52-53	54			
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	55-59	60-63	64-65	66			
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	67-71	72-75	76-77	78		79	6 80

FWPCA - 2g
2-66

GPO 902-791

FIGURE 64



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - WATER QUALITY DATA

LABORATORY BRANCH DATA

LATITUDE, LONGITUDE, SAMPLE DEPTH
DATE OF SAMPLE YR. MO. DAY
HOUR & MINUTE OF SAMPLE OR LAST DATE OF COMPOSITE SAMPLE
ITEM______ UNIT______

1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
8 7 6 5 4 3 2 1 0 1 2 3 4 5 6

COMPUTER CODED DATA

SORTING #	SAMPLE DEPTH	YR. MO. DAY
007		19 06 11
1-3	4-6	7-12
		13-18

PARAMETER CODE	VALUE	EXP.	RMKS.	BTM.	
00010 19-23	1200 24-27	28-29	30		
00400 31-35	7500 36-39	11 40-41	42		
00310 43-47	2500 48-51	11 52-53	54		
55-59	60-63	64-65	66		
67-71	72-75	76-77	78	79	80

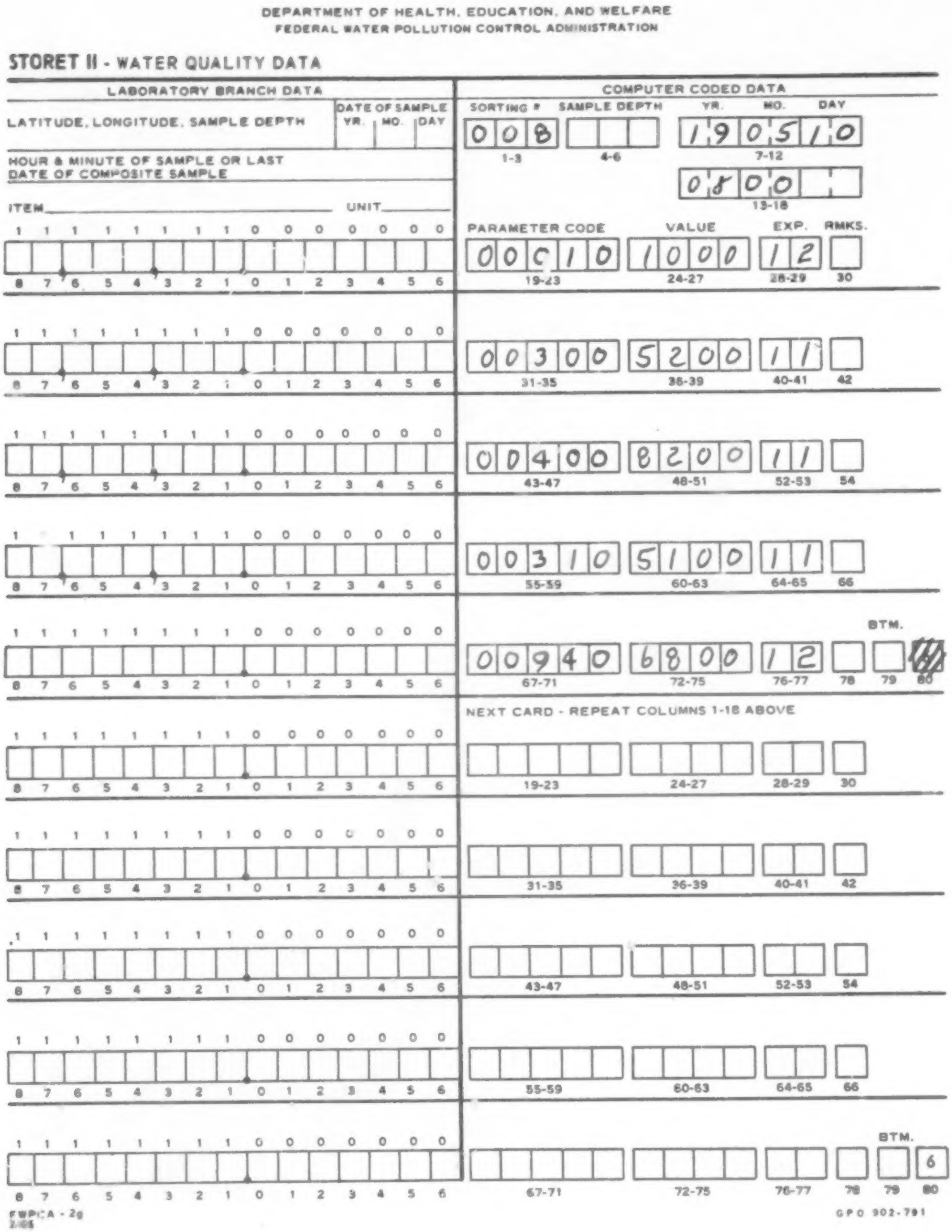
NEXT CARD - REPEAT COLUMNS 1-18 ABOVE

19-23	24-27	28-29	30		
31-35	36-39	40-41	42		
43-47	48-51	52-53	54		
55-59	60-63	64-65	66		
67-71	72-75	76-77	78	BTM. 79	6 80

FWPCA - 2g
2-66

GPO 902-791

FIGURE 65



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - WATER QUALITY DATA

LABORATORY BRANCH DATA

LATITUDE, LONGITUDE, SAMPLE DEPTH — DATE OF SAMPLE: YR. MO. DAY

HOUR & MINUTE OF SAMPLE OR LAST DATE OF COMPOSITE SAMPLE

ITEM__________ UNIT__________

COMPUTER CODED DATA

SORTING #	SAMPLE DEPTH	YR. MO. DAY
008		190510
1-3	4-6	7-12
		0800
		13-18

	PARAMETER CODE	VALUE	EXP.	RMKS.	BTM.	
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	00010 19-23	1000 24-27	12 28-29	 30		
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	00300 31-35	5200 36-39	11 40-41	 42		
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	00400 43-47	8200 48-51	11 52-53	 54		
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	00310 55-59	5100 60-63	11 64-65	 66		
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	00940 67-71	6800 72-75	12 76-77	 78	 79	 80

NEXT CARD - REPEAT COLUMNS 1-18 ABOVE

					BTM.	
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	 19-23	 24-27	 28-29	 30		
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	 31-35	 36-39	 40-41	 42		
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	 43-47	 48-51	 52-53	 54		
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	 55-59	 60-63	 64-65	 66		
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	 67-71	 72-75	 76-77	 78	 79	6 80

FWPCA - 2g
2/66

GPO 902-791

FIGURE 66

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - WATER QUALITY DATA

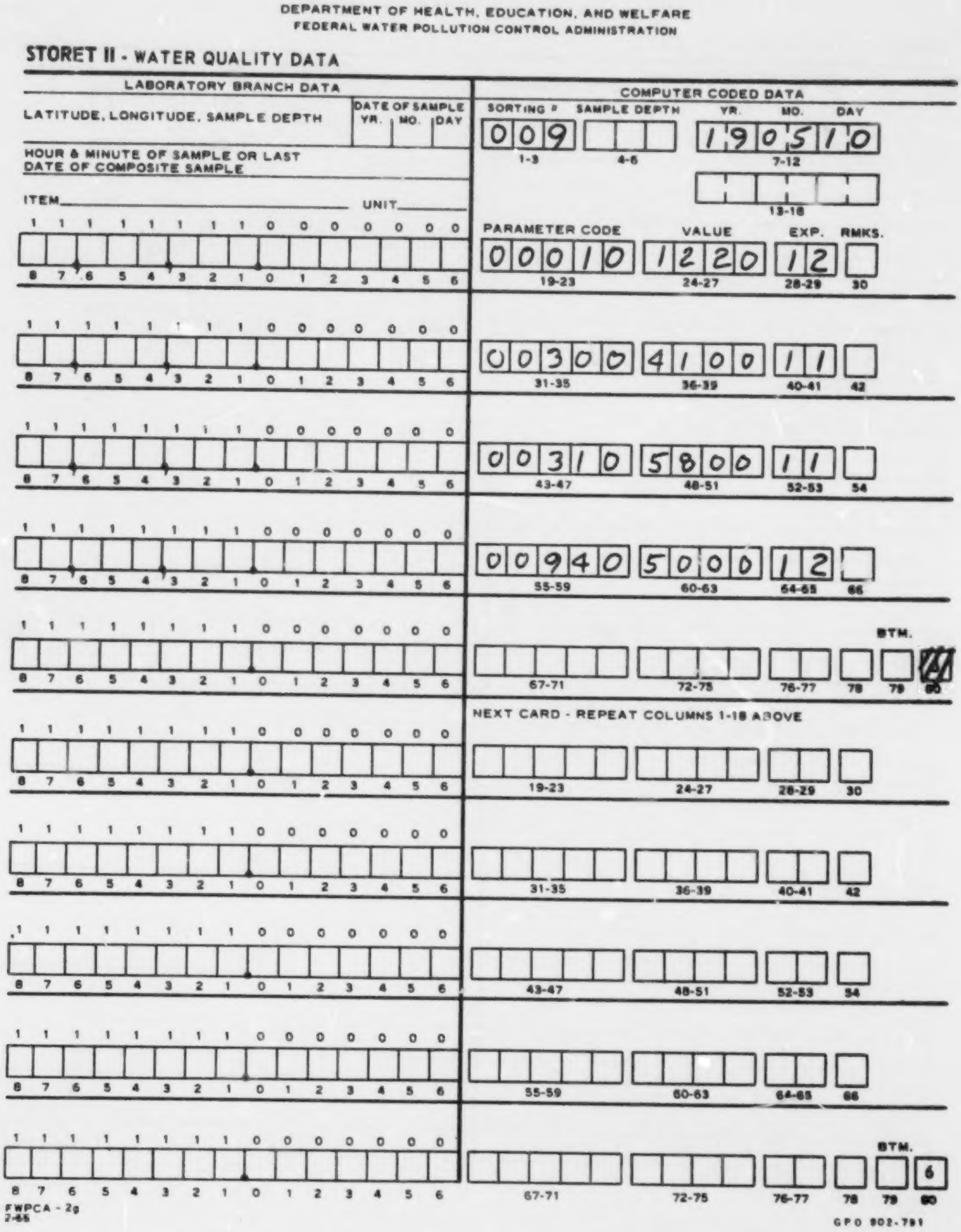
LABORATORY BRANCH DATA				COMPUTER CODED DATA				
LATITUDE, LONGITUDE, SAMPLE DEPTH	DATE OF SAMPLE YR.	MO.	DAY	SORTING # 0 0 8 (1-3)	SAMPLE DEPTH (4-6)	YR. 1 9	MO. 0 6	DAY 1 1 (7-12)
HOUR & MINUTE OF SAMPLE OR LAST DATE OF COMPOSITE SAMPLE						1 4 0 0 (13-18)		
ITEM______ UNIT______								

	PARAMETER CODE	VALUE	EXP.	RMKS.
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	0 0 0 1 0 (19-23)	8 9 0 0 (24-27)	1 1 (28-29)	(30)
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	0 0 3 0 0 (31-35)	6 0 1 0 (36-39)	1 1 (40-41)	(42)
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	0 0 4 0 0 (43-47)	7 9 0 0 (48-51)	1 1 (52-53)	(54)
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	0 0 4 1 0 (55-59)	8 9 0 0 (60-63)	1 2 (64-65)	(66)
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	(67-71)	(72-75)	(76-77)	(78) (79) BTM. ▨ (80)
	NEXT CARD - REPEAT COLUMNS 1-18 ABOVE			
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	(19-23)	(24-27)	(28-29)	(30)
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	(31-35)	(36-39)	(40-41)	(42)
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	(43-47)	(48-51)	(52-53)	(54)
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	(55-59)	(60-63)	(64-65)	(66)
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	(67-71)	(72-75)	(76-77)	(78) (79) BTM. 6 (80)

FWPCA - 2g
2-66

GPO 902-791

FIGURE 67



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - WATER QUALITY DATA

LABORATORY BRANCH DATA

LATITUDE, LONGITUDE, SAMPLE DEPTH | DATE OF SAMPLE: YR. MO. DAY

HOUR & MINUTE OF SAMPLE OR LAST DATE OF COMPOSITE SAMPLE

ITEM__________ UNIT______

1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
8 7 6 5 4 3 2 1 0 1 2 3 4 5 6

1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
8 7 6 5 4 3 2 1 0 1 2 3 4 5 6

1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
8 7 6 5 4 3 2 1 0 1 2 3 4 5 6

1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
8 7 6 5 4 3 2 1 0 1 2 3 4 5 6

1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
8 7 6 5 4 3 2 1 0 1 2 3 4 5 6

1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
8 7 6 5 4 3 2 1 0 1 2 3 4 5 6

1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
8 7 6 5 4 3 2 1 0 1 2 3 4 5 6

1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
8 7 6 5 4 3 2 1 0 1 2 3 4 5 6

1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
8 7 6 5 4 3 2 1 0 1 2 3 4 5 6

1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
8 7 6 5 4 3 2 1 0 1 2 3 4 5 6

COMPUTER CODED DATA

SORTING #	SAMPLE DEPTH	YR. MO. DAY
009		190510
1-3	4-6	7-12
		13-18

PARAMETER CODE	VALUE	EXP.	RMKS.		BTM.
00010	1220	12			
19-23	24-27	28-29	30		
00300	4100	11			
31-35	36-39	40-41	42		
00310	5800	11			
43-47	48-51	52-53	54		
00940	5000	12			
55-59	60-63	64-65	66		
					A
67-71	72-75	76-77	78	79	80

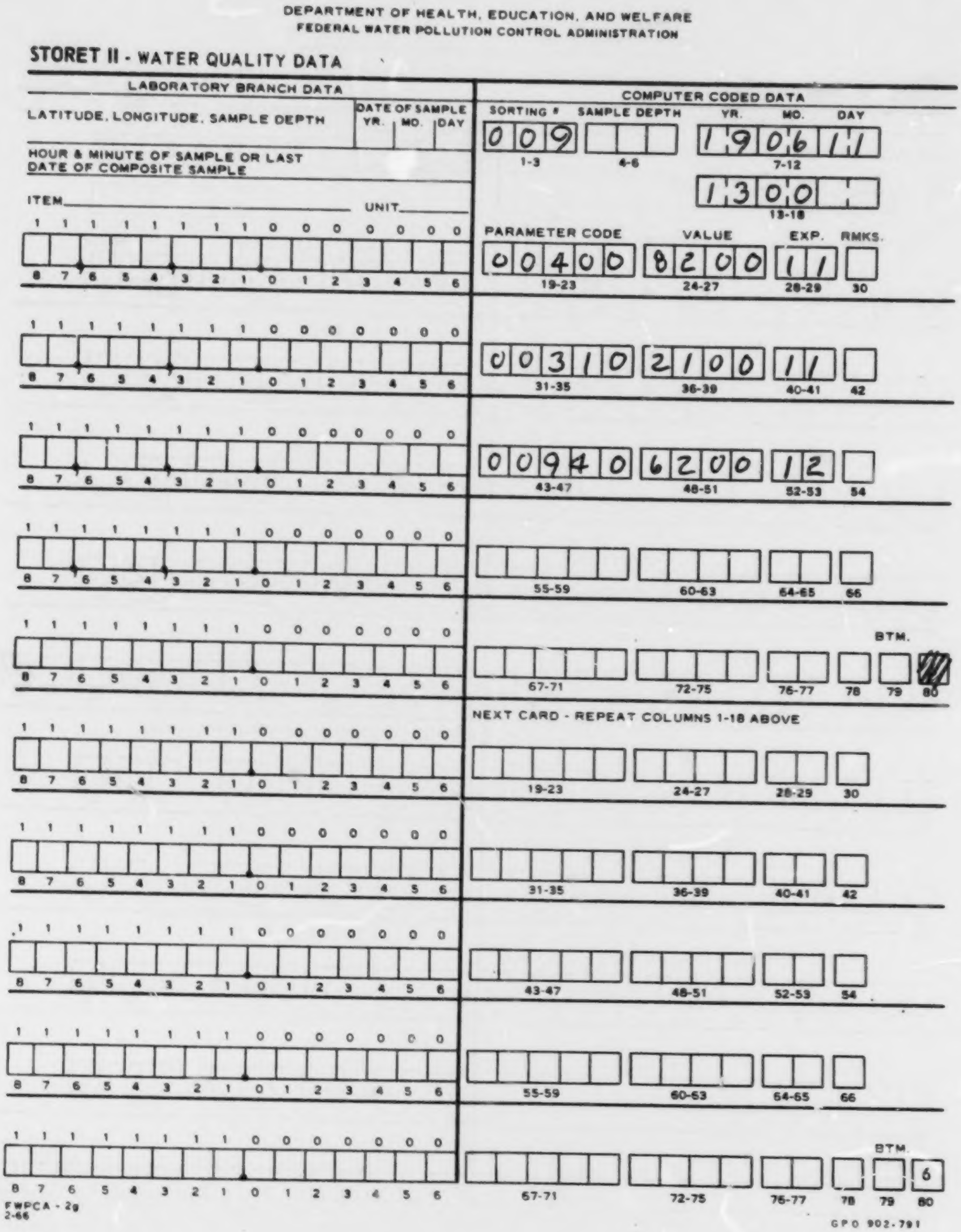
NEXT CARD - REPEAT COLUMNS 1-18 ABOVE

					BTM.
19-23	24-27	28-29	30		
31-35	36-39	40-41	42		
43-47	48-51	52-53	54		
55-59	60-63	64-65	66		
					6
67-71	72-75	76-77	78	79	80

FWPCA - 2g
7-65

GPO 902-791

FIGURE 68



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - WATER QUALITY DATA

LABORATORY BRANCH DATA

LATITUDE, LONGITUDE, SAMPLE DEPTH — DATE OF SAMPLE YR. MO. DAY

HOUR & MINUTE OF SAMPLE OR LAST DATE OF COMPOSITE SAMPLE

ITEM__________ UNIT______

1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0
8 7 6 5 4 3 2 1 0 1 2 3 4 5 6

COMPUTER CODED DATA

SORTING #	SAMPLE DEPTH	YR. MO. DAY	
0 0 9		1 9 0 6 1 1	
1-3	4-6	7-12	
		1 3 0 0	
		13-18	
PARAMETER CODE	VALUE	EXP.	RMKS.
0 0 4 0 0	8 2 0 0	1 1	
19-23	24-27	28-29	30
0 0 3 1 0	2 1 0 0	1 1	
31-35	36-39	40-41	42
0 0 9 4 0	6 2 0 0	1 2	
43-47	48-51	52-53	54
55-59	60-63	64-65	66
67-71	72-75	76-77	78 79 BTM. 80 ▨

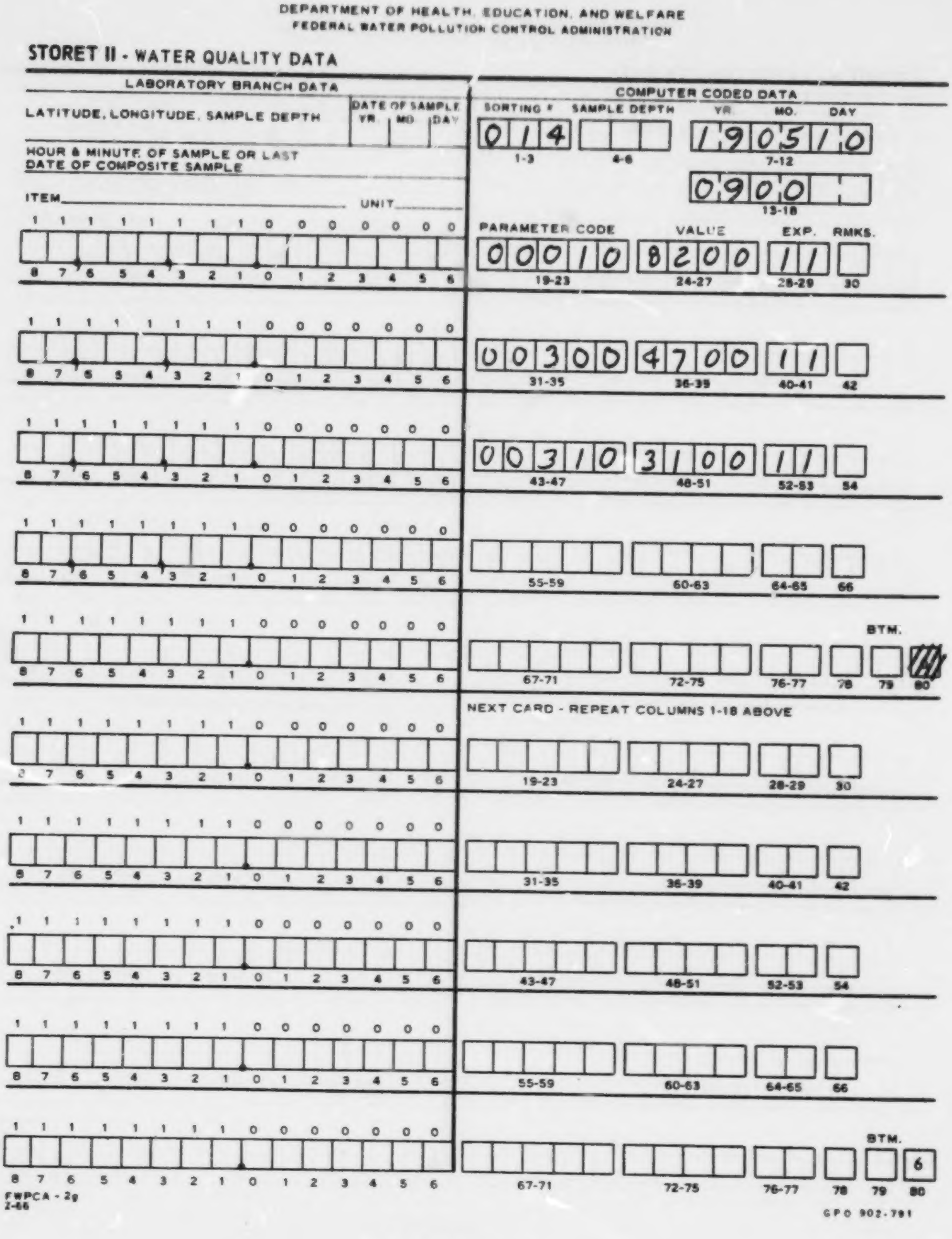
NEXT CARD - REPEAT COLUMNS 1-18 ABOVE

19-23	24-27	28-29	30
31-35	36-39	40-41	42
43-47	48-51	52-53	54
55-59	60-63	64-65	66
67-71	72-75	76-77	78 79 BTM. 80: 6

FWPCA - 2g
2-66

GPO 902-791

FIGURE 69



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - WATER QUALITY DATA

LABORATORY BRANCH DATA

LATITUDE, LONGITUDE, SAMPLE DEPTH — DATE OF SAMPLE: YR. MO. DAY

HOUR & MINUTE OF SAMPLE OR LAST DATE OF COMPOSITE SAMPLE

ITEM ______ UNIT ______

1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
8 7 6 5 4 3 2 1 0 1 2 3 4 5 6

COMPUTER CODED DATA

SORTING #	SAMPLE DEPTH	YR. MO. DAY
014		190510
1-3	4-6	7-12

		0900
		13-18

PARAMETER CODE	VALUE	EXP.	RMKS.
00010	8200	11	
19-23	24-27	28-29	30
00300	4700	11	
31-35	36-39	40-41	42
00310	3100	11	
43-47	48-51	52-53	54
55-59	60-63	64-65	66
67-71	72-75	76-77	78

BTM. 79 80

NEXT CARD - REPEAT COLUMNS 1-18 ABOVE

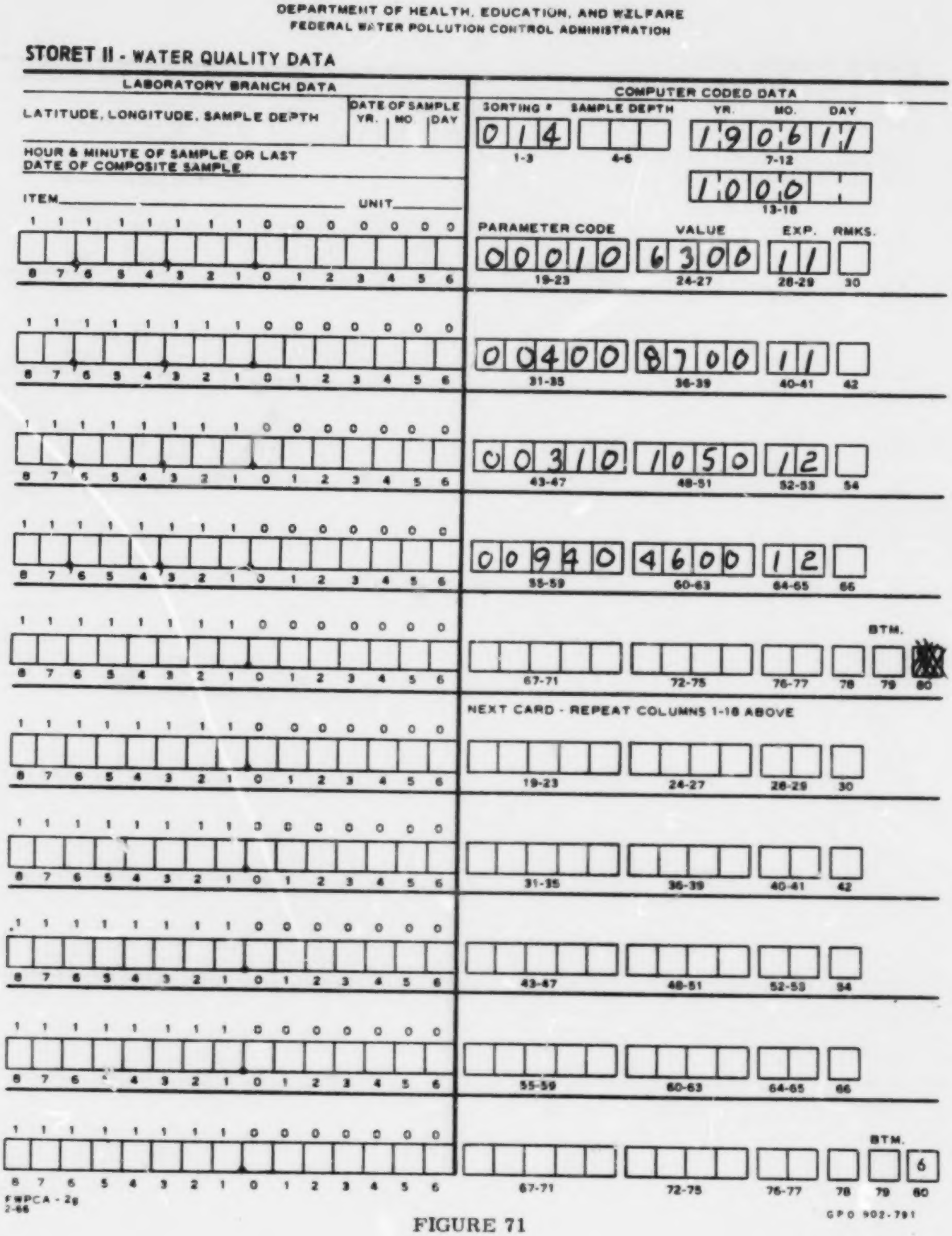
19-23	24-27	28-29	30
31-35	36-39	40-41	42
43-47	48-51	52-53	54
55-59	60-63	64-65	66
67-71	72-75	76-77	78

BTM. 79 80: 6

FWPCA - 2g
2-66

GPO 902-781

FIGURE 70



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - WATER QUALITY DATA

LABORATORY BRANCH DATA

LATITUDE, LONGITUDE, SAMPLE DEPTH

DATE OF SAMPLE YR. MO. DAY

HOUR & MINUTE OF SAMPLE OR LAST DATE OF COMPOSITE SAMPLE

ITEM______________ UNIT______

1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
8 7 6 5 4 3 2 1 0 1 2 3 4 5 6

1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
8 7 6 5 4 3 2 1 0 1 2 3 4 5 6

1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
8 7 6 5 4 3 2 1 0 1 2 3 4 5 6

1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
8 7 6 5 4 3 2 1 0 1 2 3 4 5 6

1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
8 7 6 5 4 3 2 1 0 1 2 3 4 5 6

1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
8 7 6 5 4 3 2 1 0 1 2 3 4 5 6

1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
8 7 6 5 4 3 2 1 0 1 2 3 4 5 6

1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
8 7 6 5 4 3 2 1 0 1 2 3 4 5 6

1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
8 7 6 5 4 3 2 1 0 1 2 3 4 5 6

1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
8 7 6 5 4 3 2 1 0 1 2 3 4 5 6

COMPUTER CODED DATA

SORTING #	SAMPLE DEPTH	YR.	MO.	DAY
014		19	06	11
1-3	4-6	7-12		

1000	
13-18	

PARAMETER CODE	VALUE	EXP.	RMKS.		
00010	6300	11			
19-23	24-27	28-29	30		
00400	8700	11			
31-35	36-39	40-41	42		
00310	1050	12			
43-47	48-51	52-53	54		
00940	4600	12			
55-59	60-63	64-65	66		
				BTM.	☒
67-71	72-75	76-77	78	79	80

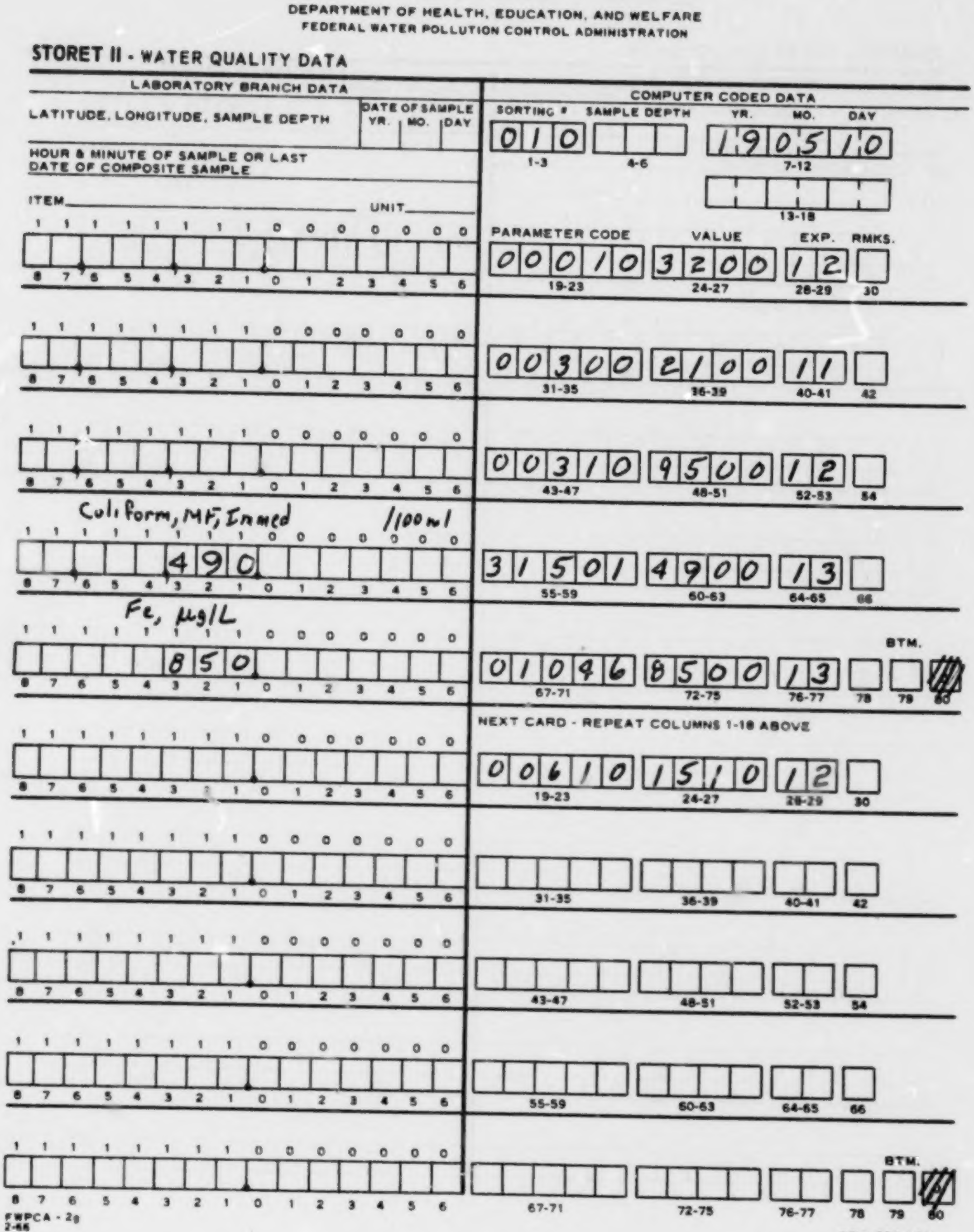
NEXT CARD - REPEAT COLUMNS 1-18 ABOVE

19-23	24-27	28-29	30		
31-35	36-39	40-41	42		
43-47	48-51	52-53	54		
55-59	60-63	64-65	66		
				BTM.	6
67-71	72-75	76-77	78	79	80

FWPCA - 2g
2-66

GPO 902-791

FIGURE 71



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - WATER QUALITY DATA

LABORATORY BRANCH DATA

LATITUDE, LONGITUDE, SAMPLE DEPTH	DATE OF SAMPLE YR.	MO.	DAY

HOUR & MINUTE OF SAMPLE OR LAST DATE OF COMPOSITE SAMPLE

ITEM__________ UNIT______

1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
8 7 6 5 4 3 2 1 0 1 2 3 4 5 6

COMPUTER CODED DATA

SORTING #	SAMPLE DEPTH	YR.	MO.	DAY	
010		19	05	10	
1-3	4-6	7-12			13-18

ITEM	UNIT	LABORATORY VALUE	PARAMETER CODE		VALUE		EXP.		RMKS.			BTM.	
			00010	19-23	3200	24-27	12	28-29		30			
			00300	31-35	2100	36-39	11	40-41		42			
			00310	43-47	9500	48-51	12	52-53		54			
Coliform, MF, Immed	/100ml	490	31501	55-59	4900	60-63	13	64-65		66			
Fe, μg/L		850	01046	67-71	8500	72-75	13	76-77		78	79		80

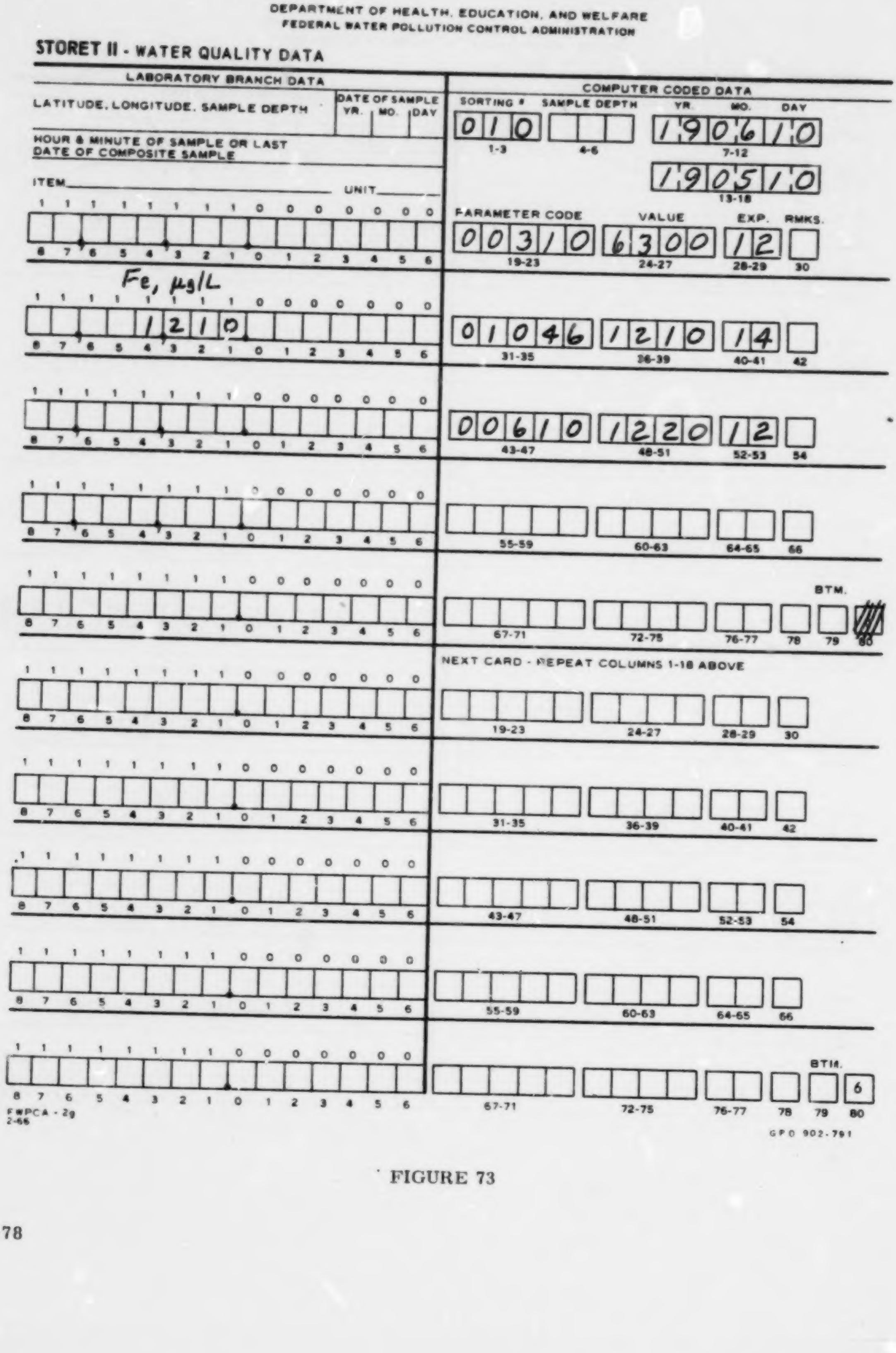
NEXT CARD - REPEAT COLUMNS 1-18 ABOVE

ITEM	UNIT	LABORATORY VALUE	PARAMETER CODE		VALUE		EXP.		RMKS.			BTM.	
			00610	19-23	1510	24-27	12	28-29		30			
				31-35		36-39		40-41		42			
				43-47		48-51		52-53		54			
				55-59		60-63		64-65		66			
				67-71		72-75		76-77		78	79		80

FWPCA - 2g
2-66

GPO 902-191

FIGURE 72



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

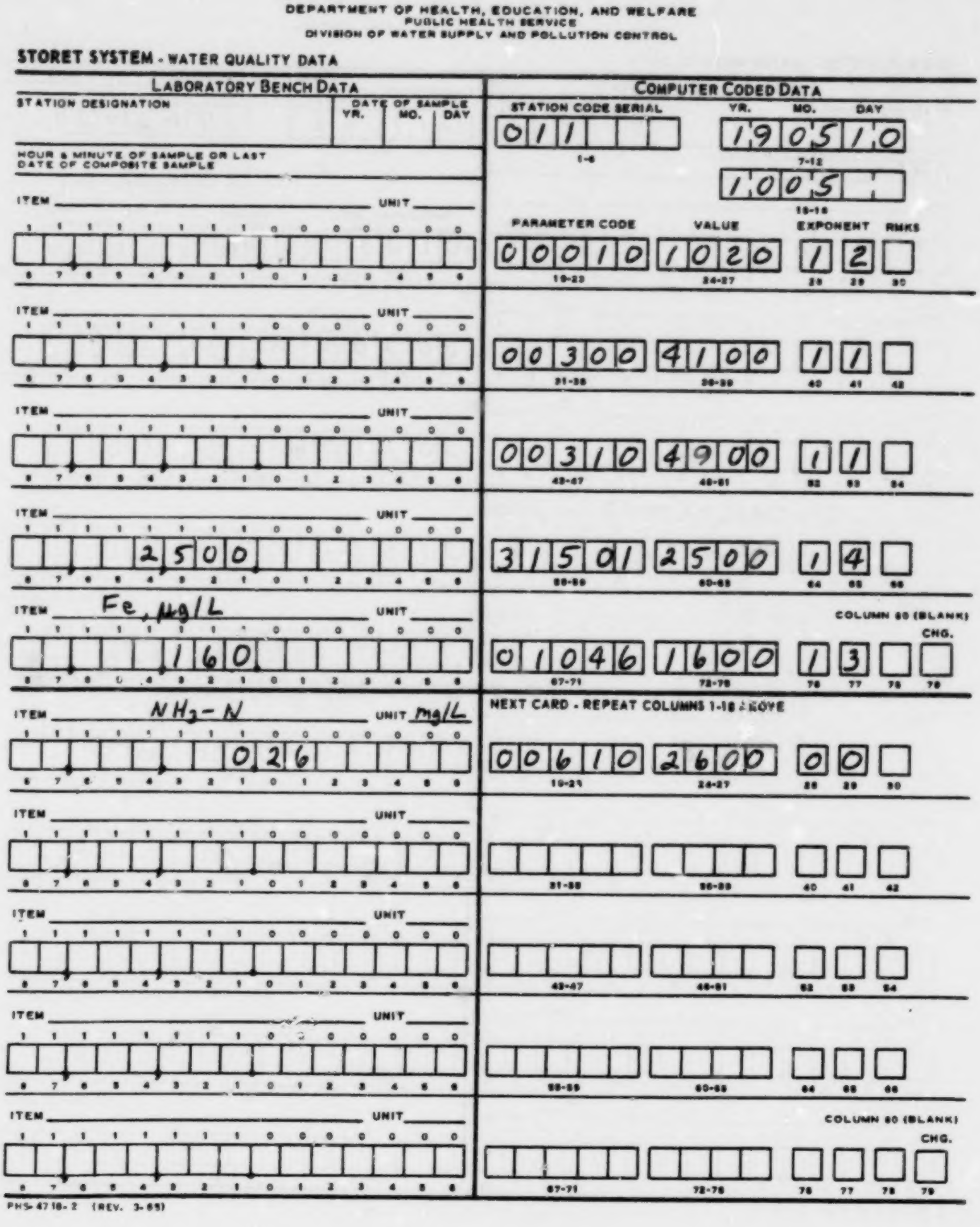
STORET II - WATER QUALITY DATA

LABORATORY BRANCH DATA	COMPUTER CODED DATA
LATITUDE, LONGITUDE, SAMPLE DEPTH — DATE OF SAMPLE: YR. MO. DAY	SORTING # (1-3): 0 1 0 — SAMPLE DEPTH (4-6): ☐☐☐ — YR. MO. DAY (7-12): 1 9 0 6 1 0
HOUR & MINUTE OF SAMPLE OR LAST DATE OF COMPOSITE SAMPLE	(13-18): 1 9 0 5 1 0
ITEM ______ UNIT ______ 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	PARAMETER CODE (19-23): 0 0 3 1 0 — VALUE (24-27): 6 3 0 0 — EXP. (28-29): 1 2 — RMKS. (30): ☐
Fe, µg/L 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 1 2 1 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	(31-35): 0 1 0 4 6 — (36-39): 1 2 1 0 — (40-41): 1 4 — (42): ☐
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	(43-47): 0 0 6 1 0 — (48-51): 1 2 2 0 — (52-53): 1 2 — (54): ☐
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	(55-59): ☐ — (60-63): ☐ — (64-65): ☐ — (66): ☐
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	(67-71): ☐ — (72-75): ☐ — (76-77): ☐ — (78): ☐ — (79): ☐ — BTM. (80): ▨
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	NEXT CARD - REPEAT COLUMNS 1-18 ABOVE (19-23): ☐ — (24-27): ☐ — (28-29): ☐ — (30): ☐
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	(31-35): ☐ — (36-39): ☐ — (40-41): ☐ — (42): ☐
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	(43-47): ☐ — (48-51): ☐ — (52-53): ☐ — (54): ☐
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	(55-59): ☐ — (60-63): ☐ — (64-65): ☐ — (66): ☐
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	(67-71): ☐ — (72-75): ☐ — (76-77): ☐ — (78): ☐ — (79): ☐ — BTM. (80): 6

FWPCA - 2g
2-66

GPO 902-791

FIGURE 73



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
DIVISION OF WATER SUPPLY AND POLLUTION CONTROL

STORET SYSTEM - WATER QUALITY DATA

LABORATORY BENCH DATA

STATION DESIGNATION	DATE OF SAMPLE YR.	MO.	DAY

HOUR & MINUTE OF SAMPLE OR LAST DATE OF COMPOSITE SAMPLE ______

ITEM ______ UNIT ______

1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6

ITEM ______ UNIT ______

1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6

ITEM ______ UNIT ______

1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6

ITEM ______ UNIT ______

1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
				2	5	0	0							
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6

ITEM Fe, µg/L UNIT ______

1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
					1	6	0							
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6

ITEM NH_3 - N UNIT mg/L

1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
							0	2	6					
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6

ITEM ______ UNIT ______

1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6

ITEM ______ UNIT ______

1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6

ITEM ______ UNIT ______

1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6

ITEM ______ UNIT ______

1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6

COMPUTER CODED DATA

STATION CODE SERIAL	YR.	MO.	DAY
0 1 1	19	05	10
1-6	7-12		
	10	05	
	13-18		

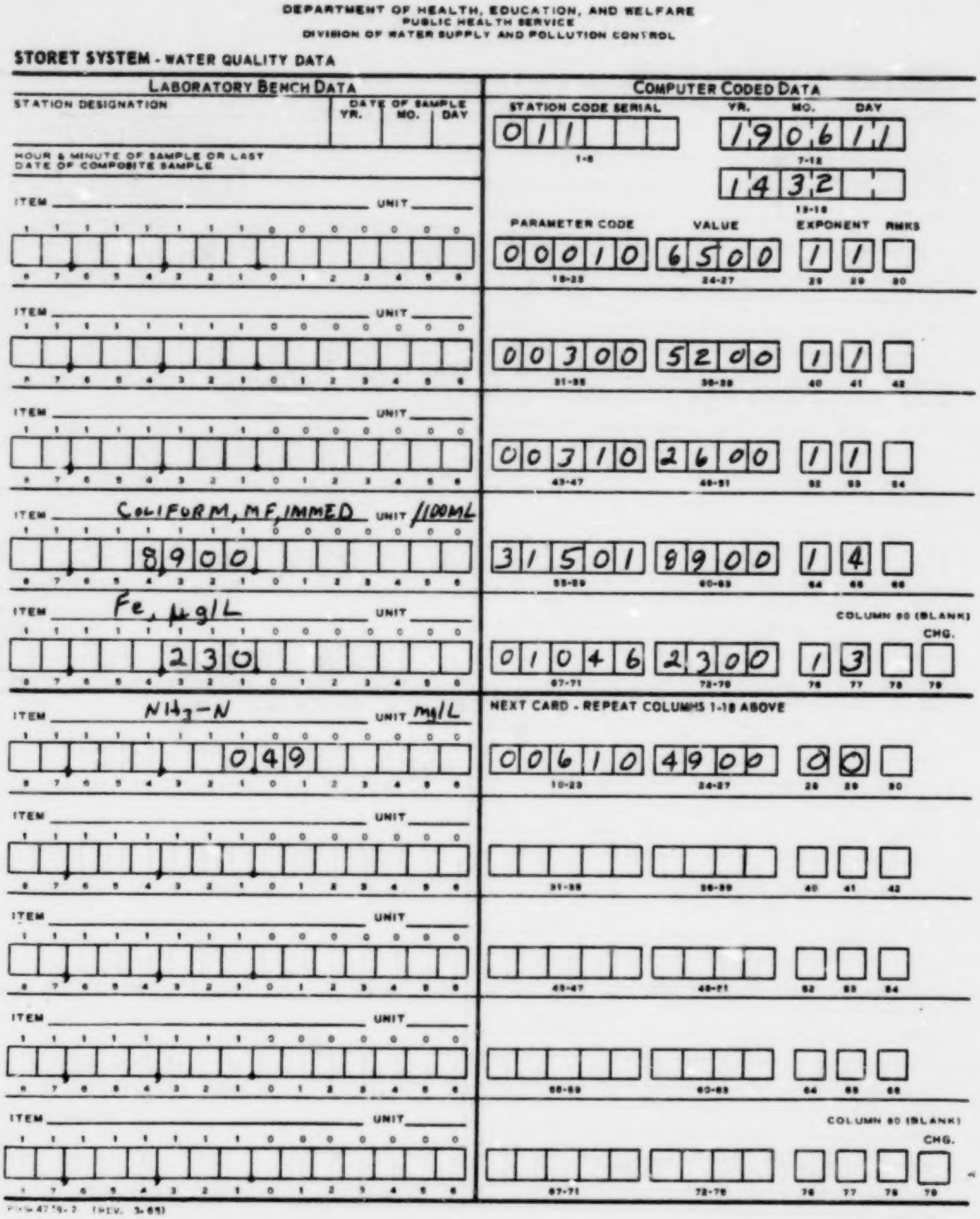
PARAMETER CODE	VALUE	EXPONENT		RMKS	
00010	1020	1	2		
19-23	24-27	28	29	30	
00300	4100	1	1		
31-35	36-39	40	41	42	
00310	4900	1	1		
43-47	48-51	52	53	54	
31501	2500	1	4		
55-59	60-63	64	65	66	
				COLUMN 80 (BLANK)	CHG.
01046	1600	1	3		
67-71	72-75	76	77	78	79

NEXT CARD - REPEAT COLUMNS 1-18 ABOVE

00610	2600	0	0		
19-23	24-27	28	29	30	
31-35	36-39	40	41	42	
43-47	48-51	52	53	54	
55-59	60-63	64	65	66	
				COLUMN 80 (BLANK)	CHG.
67-71	72-75	76	77	78	79

PHS-4718-2 (REV. 3-65)

FIGURE 74



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
DIVISION OF WATER SUPPLY AND POLLUTION CONTROL

STORET SYSTEM - WATER QUALITY DATA

LABORATORY BENCH DATA

STATION DESIGNATION

DATE OF SAMPLE: YR. / MO. / DAY

HOUR & MINUTE OF SAMPLE OR LAST DATE OF COMPOSITE SAMPLE

ITEM	UNIT	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
		8	7	6	5	4	3	2	1	0	1	2	3	4	5	6
COLIFORM, MF, IMMED	/100ML					8	9	0	0							
Fe, μg/L							2	3	0							
NH$_3$-N	mg/L								0	4	9					

COMPUTER CODED DATA

STATION CODE SERIAL (1-6): 0 1 1

YR. MO. DAY (7-12): 1 9 0 6 1 1

(13-18): 1 4 3 2

PARAMETER CODE	VALUE	EXPONENT		RMKS	CHG.
00010 (19-23)	6500 (24-27)	1 (28)	1 (29)	(30)	
00300 (31-35)	5200 (36-39)	1 (40)	1 (41)	(42)	
00310 (43-47)	2600 (48-51)	1 (52)	1 (53)	(54)	
31501 (55-59)	8900 (60-63)	1 (64)	4 (65)	(66)	
01046 (67-71)	2300 (72-75)	1 (76)	3 (77)	(78)	(79)

COLUMN 80 (BLANK)

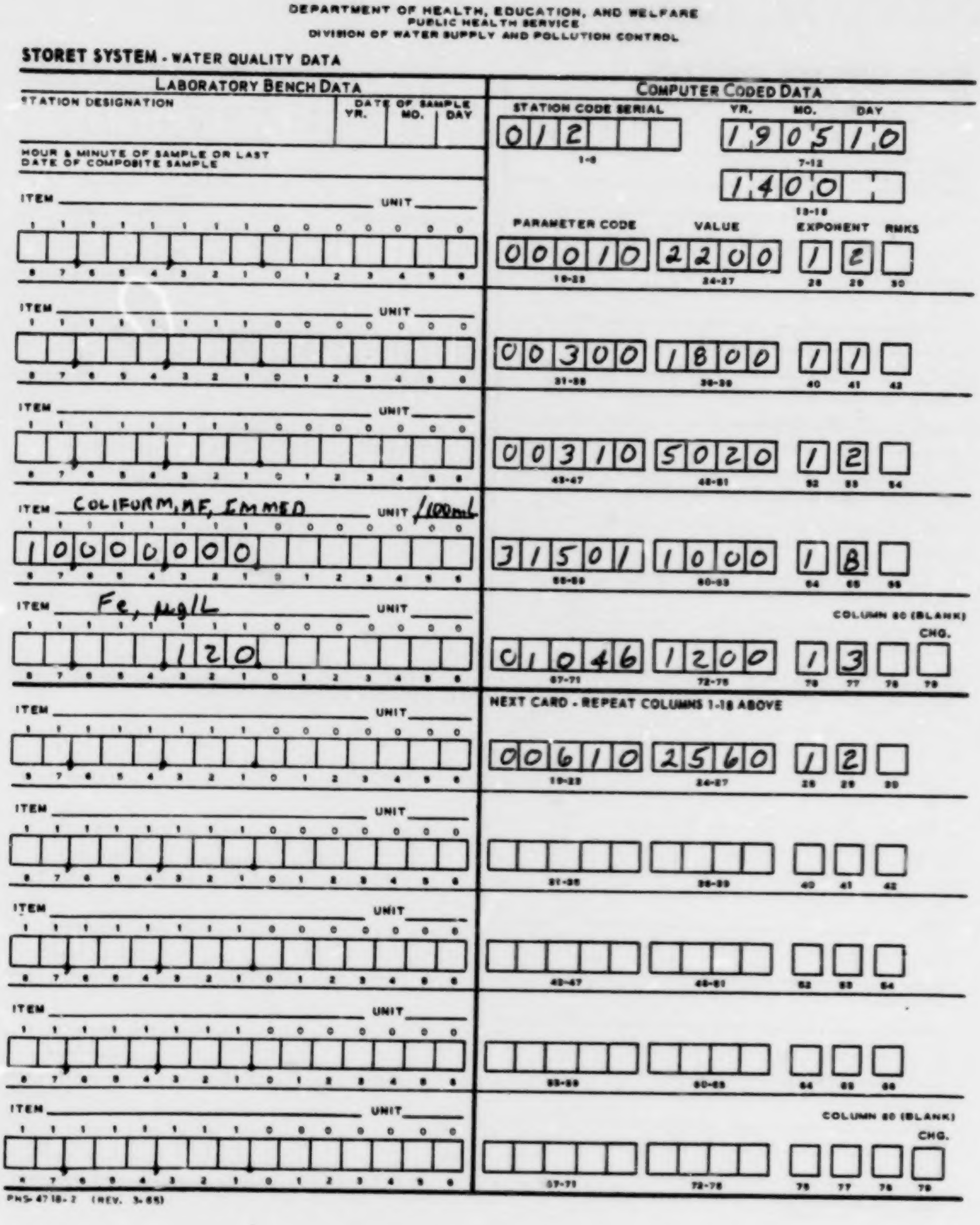
NEXT CARD - REPEAT COLUMNS 1-18 ABOVE

PARAMETER CODE	VALUE	EXPONENT		RMKS	CHG.
00610 (19-23)	4900 (24-27)	0 (28)	0 (29)	(30)	
(31-35)	(36-39)	(40)	(41)	(42)	
(43-47)	(48-51)	(52)	(53)	(54)	
(55-59)	(60-63)	(64)	(65)	(66)	
(67-71)	(72-75)	(76)	(77)	(78)	(79)

COLUMN 80 (BLANK)

PHS-4779-2 (REV. 3-65)

FIGURE 75



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
DIVISION OF WATER SUPPLY AND POLLUTION CONTROL

STORET SYSTEM - WATER QUALITY DATA

LABORATORY BENCH DATA

STATION DESIGNATION

DATE OF SAMPLE: YR. MO. DAY

HOUR & MINUTE OF SAMPLE OR LAST DATE OF COMPOSITE SAMPLE

ITEM ______ UNIT ______

1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6

ITEM ______ UNIT ______

1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6

ITEM ______ UNIT ______

1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6

ITEM COLIFORM, MF, EMMED UNIT /100ml

1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0							
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6

ITEM Fe, μg/L UNIT ______

1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
					1	2	0							
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6

ITEM ______ UNIT ______

1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6

ITEM ______ UNIT ______

1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6

ITEM ______ UNIT ______

1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6

ITEM ______ UNIT ______

1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6

ITEM ______ UNIT ______

1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6

COMPUTER CODED DATA

STATION CODE SERIAL	YR.	MO.	DAY
012	19	05	10
1-6	7-12		

1400	
13-18	

PARAMETER CODE	VALUE	EXPONENT		RMKS	CHG.
00010	2200	1	2		
19-23	24-27	28	29	30	
00300	1800	1	1		
31-35	36-39	40	41	42	
00310	5020	1	2		
43-47	48-51	52	53	54	
31501	1000	1	8		
55-59	60-63	64	65	66	
01046	1200	1	3		
67-71	72-75	76	77	78	79

COLUMN 80 (BLANK)

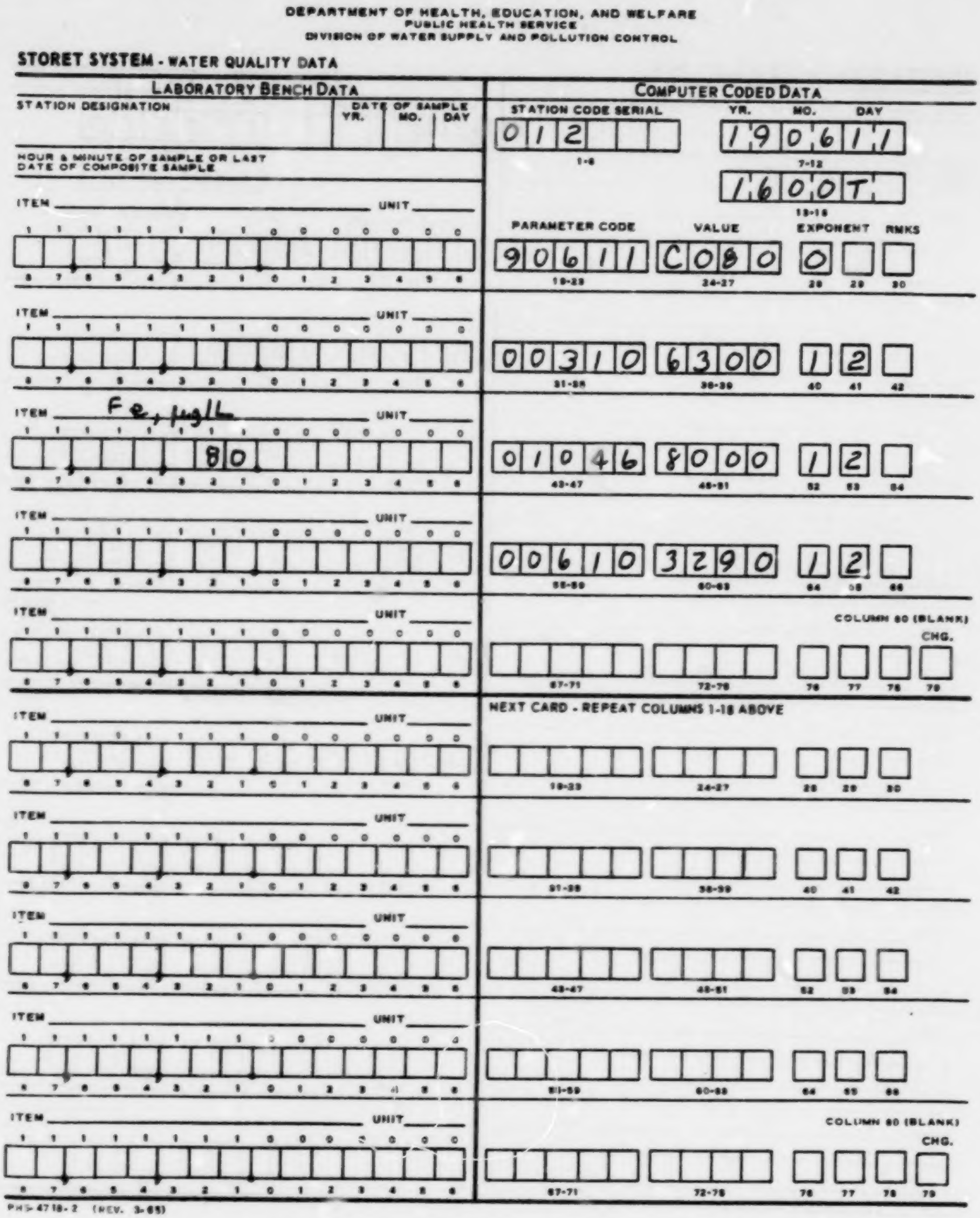
NEXT CARD - REPEAT COLUMNS 1-18 ABOVE

PARAMETER CODE	VALUE	EXPONENT		RMKS	CHG.
00610	2560	1	2		
19-23	24-27	28	29	30	
31-35	36-39	40	41	42	
43-47	48-51	52	53	54	
55-59	60-63	64	65	66	
67-71	72-75	76	77	78	79

COLUMN 80 (BLANK)

PHS-4718-2 (REV. 3-65)

FIGURE 76



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
DIVISION OF WATER SUPPLY AND POLLUTION CONTROL

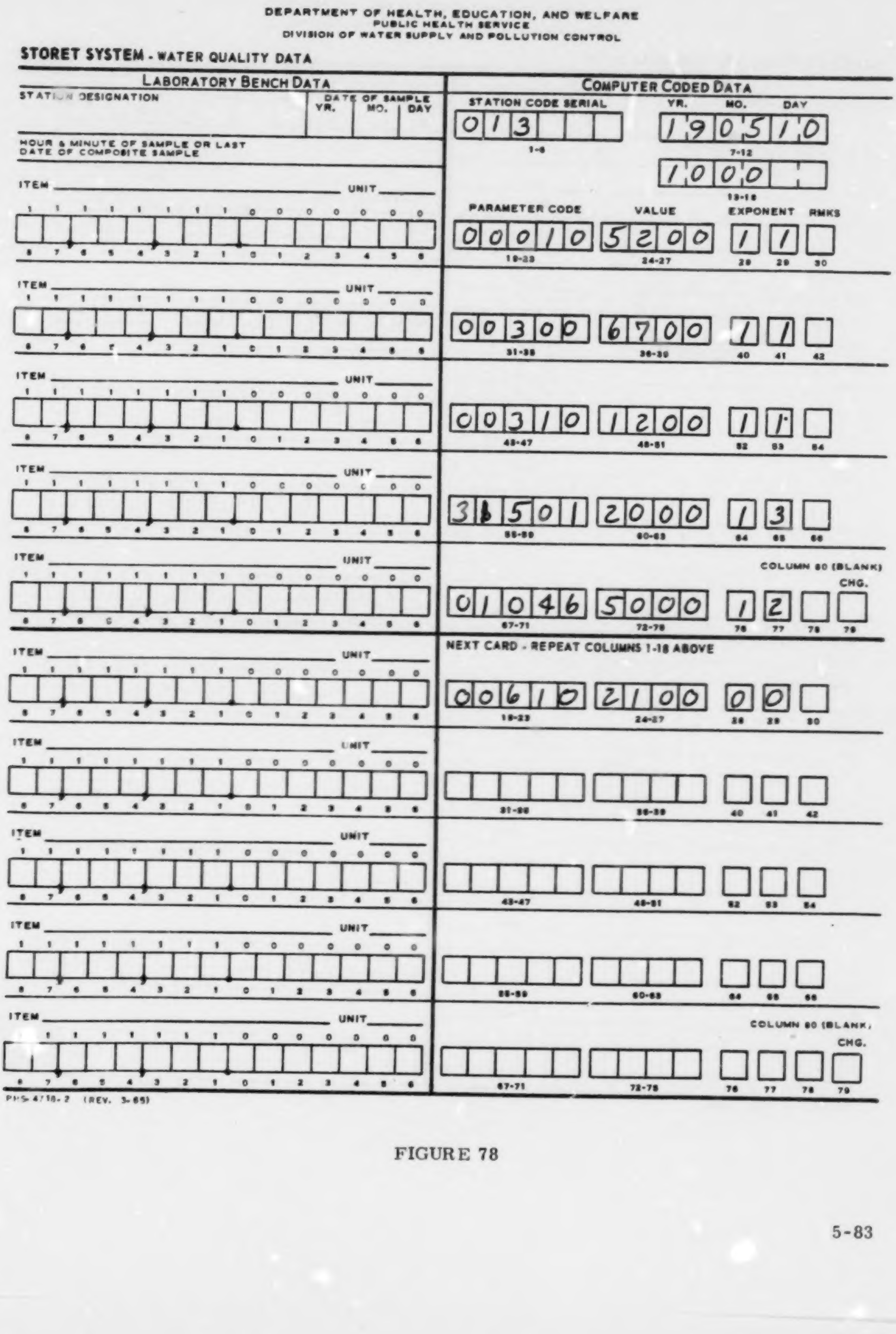
STORET SYSTEM - WATER QUALITY DATA

LABORATORY BENCH DATA				COMPUTER CODED DATA					
STATION DESIGNATION	DATE OF SAMPLE YR.	MO.	DAY	STATION CODE SERIAL 012 1-6	YR. MO. DAY 190611 7-12				
HOUR & MINUTE OF SAMPLE OR LAST DATE OF COMPOSITE SAMPLE					1600T 13-18				

Laboratory Bench Data	PARAMETER CODE	VALUE	EXPONENT		RMKS	
ITEM ______ UNIT ______ 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	90611 19-23	C080 24-27	0 28	29	30	
ITEM ______ UNIT ______ 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	00310 31-35	6300 36-39	1 40	2 41	42	
ITEM Fe, μg/l UNIT ______ 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 80 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	01046 43-47	8000 48-51	1 52	2 53	54	
ITEM ______ UNIT ______ 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	00610 55-59	3290 60-63	1 64	2 65	66	
ITEM ______ UNIT ______ 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	67-71	72-75	76	77	COLUMN 80 (BLANK) 78	CHG. 79
ITEM ______ UNIT ______ 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	NEXT CARD - REPEAT COLUMNS 1-18 ABOVE 19-23	24-27	28	29	30	
ITEM ______ UNIT ______ 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	31-35	36-39	40	41	42	
ITEM ______ UNIT ______ 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	43-47	48-51	52	53	54	
ITEM ______ UNIT ______ 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	55-59	60-63	64	65	66	
ITEM ______ UNIT ______ 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6	67-71	72-75	76	77	COLUMN 80 (BLANK) 78	CHG. 79

PHS-4718-2 (REV. 3-65)

FIGURE 77



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
DIVISION OF WATER SUPPLY AND POLLUTION CONTROL

STORET SYSTEM - WATER QUALITY DATA

LABORATORY BENCH DATA

STATION DESIGNATION

DATE OF SAMPLE: YR. MO. DAY

HOUR & MINUTE OF SAMPLE OR LAST DATE OF COMPOSITE SAMPLE

ITEM ____ UNIT ____ (×11)

COMPUTER CODED DATA

STATION CODE SERIAL (1-6): 0 1 3

YR. MO. DAY (7-12): 1 9 0 5 1 0

(13-18): 1 0 0 0

PARAMETER CODE	VALUE	EXPONENT		RMKS
00010 (19-23)	5200 (24-27)	1 (28)	1 (29)	(30)
00300 (31-35)	6700 (36-39)	1 (40)	1 (41)	(42)
00310 (43-47)	1200 (48-51)	1 (52)	1 (53)	(54)
31501 (55-59)	2000 (60-63)	1 (64)	3 (65)	(66)
01046 (67-71)	5000 (72-75)	1 (76)	2 (77)	(78)

COLUMN 80 (BLANK); CHG. (79)

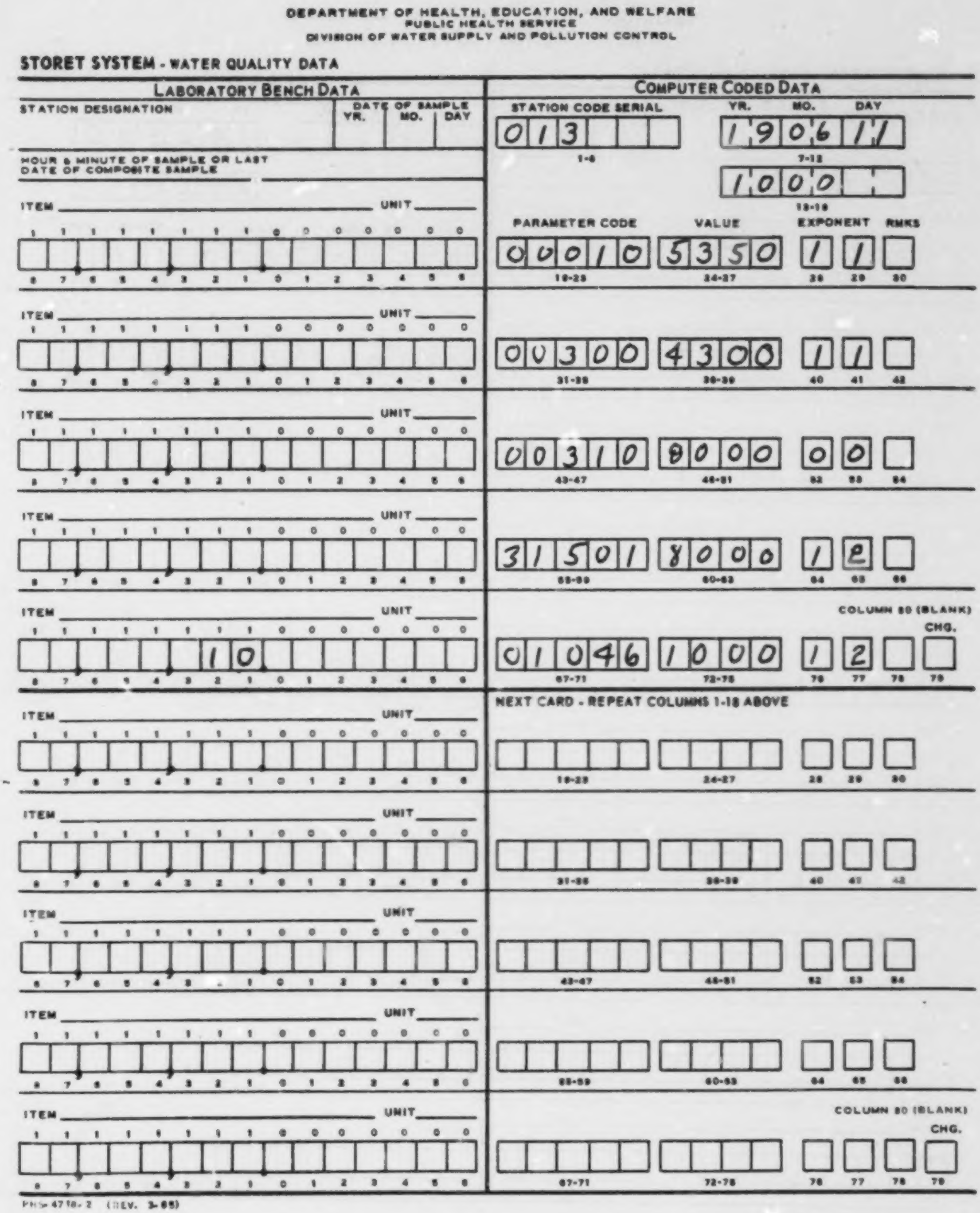
NEXT CARD - REPEAT COLUMNS 1-18 ABOVE

PARAMETER CODE	VALUE	EXPONENT		RMKS
00610 (19-23)	2100 (24-27)	0 (28)	0 (29)	(30)
(31-35)	(36-39)	(40)	(41)	(42)
(43-47)	(48-51)	(52)	(53)	(54)
(55-59)	(60-63)	(64)	(65)	(66)
(67-71)	(72-75)	(76)	(77)	(78)

COLUMN 80 (BLANK); CHG. (79)

PHS-4718-2 (REV. 3-65)

FIGURE 78



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
DIVISION OF WATER SUPPLY AND POLLUTION CONTROL

STORET SYSTEM - WATER QUALITY DATA

LABORATORY BENCH DATA

STATION DESIGNATION ______ DATE OF SAMPLE YR. ___ MO. ___ DAY ___

HOUR & MINUTE OF SAMPLE OR LAST DATE OF COMPOSITE SAMPLE ______

ITEM ______ UNIT ______ (×10; in the fifth: 1 0)

COMPUTER CODED DATA

STATION CODE SERIAL	0 1 3	1-6
YR. MO. DAY	1 9 0 6 1 1	7-12
	1 0 0 0	13-18

PARAMETER CODE	VALUE	EXPONENT		RMKS	CHG.
0 0 0 1 0 (19-23)	5 3 5 0 (24-27)	1 (28)	1 (29)	(30)	
0 0 3 0 0 (31-35)	4 3 0 0 (36-39)	1 (40)	1 (41)	(42)	
0 0 3 1 0 (43-47)	8 0 0 0 (48-51)	0 (52)	0 (53)	(54)	
3 1 5 0 1 (55-59)	8 0 0 0 (60-63)	1 (64)	2 (65)	(66)	
0 1 0 4 6 (67-71)	1 0 0 0 (72-75)	1 (76)	2 (77)	(78)	(79)

COLUMN 80 (BLANK)

NEXT CARD - REPEAT COLUMNS 1-18 ABOVE

PARAMETER CODE	VALUE	EXPONENT		RMKS	CHG.
(19-23)	(24-27)	(28)	(29)	(30)	
(31-35)	(36-39)	(40)	(41)	(42)	
(43-47)	(48-51)	(52)	(53)	(54)	
(55-59)	(60-63)	(64)	(65)	(66)	
(67-71)	(72-75)	(76)	(77)	(78)	(79)

COLUMN 80 (BLANK)

PHS-4718-2 (REV. 3-65)

FIGURE 79

```
STORET RETRIEVAL DATE 69/04/14
0328A
                                                                  950001          001

                                                                 ALPHA CR 5.32 MILES FR GOOSE BAY
                                                                 95 STATE 95
                                                                 MAJOR BASIN 32
                                                                 MINOR BASIN 20 TERMINAL STREAM 002
                                                                 EXAMPLE              2111204

      RIVER
      SYSTEM    II     III    IV      V     VI    VII  VIII   IX     X    XI    XII
INDEX 3220002
MILES 0005.32     .      .      .      .      .     .     .     .     .     .     .

                                                     DESCRIPTION

                       DESCRIPTION

                                 CARDS

                                      FOR

                                         STATION

                                                LOCATION

                                                          001
```

FIGURE 80

```
STORET RETRIEVAL DATE 69/04/14
0328A
                                                                  950001          001

                                                                  ALPHA CR 5.32 MILES FR GOOSE BAY
                                                                  95 STATE 95
                                                                  MAJOR BASIN 32
                                                                  MINOR BASIN 20 TERMINAL STREAM 002
                                                                  EXAMPLE               2111204

                            00010     00300     00400     00410     00940     00310     00011     01046     00610     31503
 DATE    TIME DEPTH  WATER       DO        PH      T ALK   CHLORIDE      BOD     WATER      IRON   AMMONIA  COLIFORM
 FROM     OF          TEMP                                CACO3       CL      5 DAY      TEMP  DISOLVED    NH3-N  DLY ENDO
  TO     DAY   FEET   CENT      MG/L      S U      MG/L      MG/L      MG/L      FAHN      UG/L      MG/L  MF/100ML
19/05/10 10 00         10.0       4.5     7.10        78         4
19/06/11                                                        160
```

FIGURE 81

```
STORET RETRIEVAL DATE 69/04/14                                  950005           005
03284                                                           43 40 31.0 062 30 05.1
                                                                RAPID R. LF SIDE 2 MI FR MOUTH
                                                                95 STATE 95
                                                                MAJOR BASIN 32
                                                                MINOR BASIN 20 TERMINAL STREAM 003
                                                                EXAMPLE                 2111204
                                                                1                       0005 FEET  DEPTH

      RIVER
      SYSTEM    II     III     IV      V      VI     VII  VIII    IX      X     XI     XII
INDEX 3220003
MILES 0002.00    .      .      .       .      .      .      .      .      .      .      .

                                                    DESCRIPTION

                 DESCRIPTION

                        CARDS

                            FOR

                               STATION

                                    LOCATION

                                          005
```

FIGURE 82

```
STORET RETRIEVAL DATE 69/04/14
0328A
                                                                  950005          005
                                                                 43 40 31.0 062 30 05.1
                                                                 RAPID R. LF SIDE 2 MI FR MOUTH
                                                                 95 STATE 95
                                                                 MAJOR BASIN 32
                                                                 MINOR BASIN 20 TERMINAL STREAM 003
                                                                 EXAMPLE              2111204
                                                                 1                   0005 FEET  DEPTH
                      00010     00300     00400     00410    00940      00310     00011     01046     00610     31503
  DATE   TIME DEPTH   WATER      DO        PH       T ALK   CHLORIDE    BOD       WATER     IRON    AMMONIA   COLIFORM
  FROM    OF          TEMP                          CACO3      CL      5 DAY      TEMP    DISOLVFD  NH3-N     DLY ENDO
  TO     DAY  FEET    CENT      MG/L      S U       MG/L      MG/L      MG/L      FAHN      UG/L      MG/L    MF/100ML

19/05/10                10.0       6.5                                     6.2
19/05/11       COMP
19/06/11                 5.0       5.5                  95       185
```

FIGURE 83

```
STORET RETRIEVAL DATE 69/04/14
0328A
                                                                  950011          11

                                                                 RAPID CITY WATER INTAKE
                                                                 95 STATE 95
                                                                 MAJOR BASIN 32
                                                                 MINOR BASIN 20 TERMINAL STREAM 003
                                                                 EXAMPLF                2112204


       RIVER
       SYSTEM    II       III      IV        V       VI      VII  VIII    IX       X      XI      XII
INDEX  3220003
MILES  0008.80     .        .        .        .       .        .      .       .       .       .       .

                                                         DESCRIPTION
```

FIGURE 84

```
STORET RETRIEVAL DATE 69/04/14
0328A
                                                        950011          11

                                                        RAPID CITY WATER INTAKE
                                                        95 STATE 95
                                                        MAJOR BASIN 32
                                                        MINOR BASIN 20 TERMINAL STREAM 003
                                                        EXAMPLE                   2112204

 DATE    TIME DEPTH  00010    00300     00400    00410     00940     00310    00011     01046     00610     31503
 FROM     OF         WATER     DO        PH      T ALK    CHLORIDE    BOD     WATER      IRON    AMMONIA   COLIFORM
  TO     DAY   FEET  TEMP                        CACO3       CL      5 DAY    TEMP    DISOLVED   NH3-N    DLY ENDO
                     CENT     MG/L      S U      MG/L       MG/L     MG/L     FAHN      UG/L      MG/L    MF/100ML
19/05/10 10 05        10.2      4.1
19/06/11 14 32         6.5      5.2                                   4.9               0.140     0.240      2800
                                                                      2.6               0.230     0.490      8900
```

FIGURE 85

```
STORET RETRIEVAL DATE 69/04/14
0328A
                                                                    950012          12

                                                                    RAPID CITY STR OUTFALL
                                                                    95 STATE 95
                                                                    MAJOR BASIN 32
                                                                    MINOR BASIN 20 TERMINAL STREAM 003
                                                                    EXAMPLE                  2144204

      RIVER
      SYSTEM    II      III     IV       V       VI      VII  VIII    IX       X     XI     XII
INDEX 3220003
MILES 0007.27    .       .       .       .        .       .     .      .        .      .      .

                                                        DESCRIPTION
```

FIGURE 86

```
STORET RETRIEVAL DATE 69/04/14
0328A                                                  950012          12

                                                       RAPID CITY STR OUTFALL
                                                       95 STATE 95
                                                       MAJOR BASIN 32
                                                       MINOR BASIN 20 TERMINAL STREAM 003
                                                       EXAMPLE                2144204

                           00010      00300      00400      00410      00940      00310      00011      01046      00610      31503
   DATE    TIME DEPTH      WATER       DO         PH        T ALK     CHLORIDE     BOD       WATER       IRON     AMMONIA    COLIFORM
   FROM     OF             TEMP                             CACO3        CL       5 DAY      TEMP      DISOLVED    NH3-N     DLV ENDO
    TO     DAY   FEET      CENT       MG/L       S U        MG/L       MG/L       MG/L       FAHN        UG/L      MG/L      MF/100ML

19/05/10 14 00              22.0        1.8                                        50.2                            25.600   10000000
19/06/11 08 00
CPIT-                                                                              63.0                 0.080     32.400
19/06/11 16 00
```

FIGURE 87

```
STORET RETRIEVAL DATE 69/04/14
0328A                                                       950009        9

                                                           RAPID RIVER ON ALT 66 BRIDGE
                                                           95 STATE 95
                                                           MAJOR BASIN 32
                                                           MINOR BASIN 20 TERMINAL STREAM 003
                                                           EXAMPLE              2111204


       RIVER
       SYSTEM   II    III   IV    V    VI    VII  VIII  IX    X    XI    XII
INDEX  3220003
MILES  0010.65   .     .     .     .     .     .     .     .     .     .     .

                                                 DESCRIPTION
```

FIGURE 88

```
STORET RETRIEVAL DATE 69/04/14
03284
                                                                950009         9

                                                               RAPID RIVER ON ALT 66 BRIDGE
                                                               95 STATE 95
                                                               MAJOR BASIN 32
                                                               MINOR BASIN 20 TERMINAL STREAM 003
                                                               EXAMPLE                 2111204

                          00010      00300      00400      00410      00940      00310      00011      01046      00610      31503
  DATE    TIME DEPTH     WATER        DO         PH       T ALK    CHLORIDE     BOD       WATER      IRON     AMMONIA   COLIFORM
  FROM     OF             TEMP                             CACO3       CL       5 DAY      TEMP    DISSOLVED   NH3-N    DLY ENDO
   TO     DAY   FEET      CENT       MG/L       S U        MG/L       MG/L      MG/L       FAHN      UG/L       MG/L    MF/100ML

19/05/10                               4.1                             90        5.8       12.2
19/06/11 13 00                                    8.20                 62        2.1
```

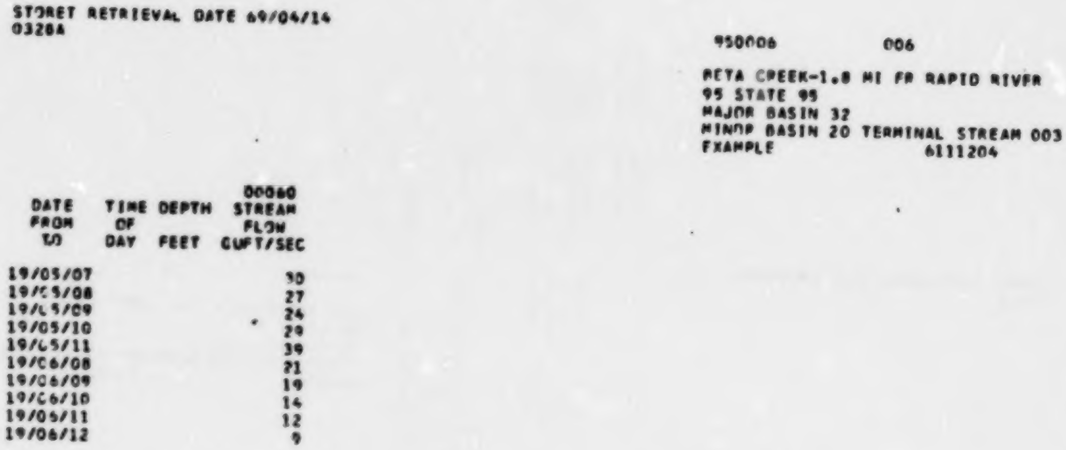
FIGURE 89

```
STORET RETRIEVAL DATE 69/04/14
0328A                                                            95C006          C06

                                                                 BETA CREEK-1.8 MI FR RAPID RIVER
                                                                 95 STATE 95
                                                                 MAJOR BASIN 32
                                                                 MINOR BASIN 20 TERMINAL STREAM 003
                                                                 EXAMPLE                 6111204


      RIVER
      SYSTEM    II      III    IV      V     VI    VII  VIII   IX     X    XI    XII
INDEX 3220003  000020
MILES 0009.56 0001.80    .      .      .      .     .     .     .     .     .     .

                                                     DESCRIPTION

                       DESCRIPTION

                                 CARDS

                                      FOR

                                         STATION

                                                LOCATION

                                                          006
```

FIGURE 90

```
STORET RETRIEVAL DATE 69/04/14
U320A
                                                    95CC06        006

                                                   BETA CREEK-1.0 MI FR RAPID RIVER
                                                   55 STATE 95
                                                   MAJOR BASIN 32
                                                   MINOR BASIN 20 TERMINAL STREAM 003
                                                   EXAMPLE                  6111204

                        00010     00300     00400     00410     00940     00310     00011     01046     00610     31503
  DATE    TIME DEPTH    WATER      DO        PH       T ALK    CHLORIDE    BOD      WATER      IRON    AMMONIA   COLIFORM
  FROM     OF           TEMP                          CACO3       CL      5 DAY     TEMP    DISOLVED   NH3-N    DLY ENDO
   TO     DAY   FEET    CENT      MG/L      S U       MG/L       MG/L     MG/L      FAHN      UG/L      MG/L    MF/100ML

19/05/10 08 00
CP(T)-05                 15.0               8.20        78        35       4.5
19/05/10 14 00
19/05/11                 18.5      4.3                  95
```

FIGURE 91



```
STORET RETRIEVAL DATE 69/04/14
0328A
                                                         950006          006

                                                         BETA CREEK-1.8 MI FR RAPID RIVER
                                                         95 STATE 95
                                                         MAJOR BASIN 32
                                                         MINOR BASIN 20 TERMINAL STREAM 003
                                                         EXAMPLE                  6111204

                        00060
  DATE    TIME DEPTH   STREAM
  FROM     OF           FLOW
   TO     DAY   FEET  CUFT/SEC

19/05/07                   30
19/05/08                   27
19/05/09                   24
19/05/10                   29
19/05/11                   39
19/06/08                   21
19/06/09                   19
19/06/10                   14
19/06/11                   12
19/06/12                    9
```

FIGURE 92

```
STORET RETRIEVAL DATE 69/04/14
0328A
                                                          940010        10

                                                         ABC INDUSTRIES ON   BETA CREEK
                                                         94 STATE 94
                                                         MAJOR BASIN 32
                                                         MINOR BASIN 20 TERMINAL STREAM 003
                                                         EXAMPLE              2144204


      RIVER
      SYSTEM    II      III    IV      V      VI     VII  VIII   IX     X     XI    XII
INDEX 3220003  000020
MILES 0009.56 0001.23    .      .      .      .      .     .      .     .     .     .

                                                  DESCRIPTION
```

FIGURE 93

```
STORET RETRIEVAL DATE 69/04/14
0328A
                                                         940010         10

                                                        ABC INDUSTRIES ON   BETA CREEK
                                                        94 STATE 94
                                                        MAJOR BASIN 32
                                                        MINOR BASIN 20 TERMINAL STREAM 003
                                                        EXAMPLE                  2144204

                         00010      00300      00400      00410      00940      00310      00011      01046      00610      31503
  DATE    TIME DEPTH    WATER        DO         PH       T ALK     CHLORIDE      BOD       WATER       IRON     AMMONIA   COLIFORM
  FROM     OF            TEMP                            CACO3        CL        5 DAY       TEMP    DISOLVED    NH3-N    DLY ENDO
   TO     DAY   FEET     CENT       MG/L       S U       MG/L       MG/L        MG/L       FAHN       UG/L       MG/L    MF/100ML

19/05/10                 32.0        2.1                                         95.0                  0.850     15.100       490
19/06/11                                                                         63.0                  1.210     12.200
19/06/12       COMP
```

FIGURE 94

```
STORET RETRIEVAL DATE 69/04/14
0326A
                                                                  940008        B

                                                                  PINE LANE BRIDGE ON BETA CREEK
                                                                  94 STATE 94
                                                                  MAJOR BASIN 32
                                                                  MINOR BASIN 20 TERMINAL STREAM 003
                                                                  EXAMPLE                 2111204


      RIVER
      SYSTEM     II       III     IV      V       VI      VII  VIII    IX      X      XI     XII
INDEX 3220003  000020
MILES 0009.56 0013.51      .       .       .       .       .       .       .       .      .       .

                                                         DESCRIPTION
```

FIGURE 95

```
STORET RETRIEVAL DATE 69/04/14
0328A
                                                                 940008         8

                                                                 PINE LANE BRIDGE ON BETA CREEK
                                                                 94 STATE 94
                                                                 MAJOR BASIN 32
                                                                 MINOR BASIN 20 TERMINAL STREAM 003
                                                                 EXAMPLE                2111204

                     00010     00300     00400     00410     00946     00310     00011     01046     00610     31503
  DATE    TIME DEPTH WATER       DO        PH      T ALK   CHLORIDE     BOD      WATER      IRON    AMMONIA   COLIFORM
  FROM     OF        TEMP                          CACO3      CL       5 DAY     TEMP    DISOLVED   NH3-N    DLY ENDO
   TO     DAY   FEET CENT      MG/L      S U       MG/L      MG/L      MG/L      FAHN      UG/L      MG/L    MF/100ML

19/05/10 08 00                  5.2      8.20         5        68       5.1      10.0
19/06/11 14 00                  6.0      7.90        89                           8.9
```

FIGURE 96

```
STORET RETRIEVAL DATE 69/04/14
0328A
                                                                 950007           007

                                                                UNKNOWN CR-0.96 MI FR BETA CREEK
                                                                95 STATE 95
                                                                MAJOR BASIN 32
                                                                MINOR BASIN 20 TERMINAL STREAM 003
                                                                EXAMPLE               2111204


     RIVER
     SYSTEM    II      III     IV      V      VI     VII  VIII   IX     X     XI     XII
INDEX 3220003  000020  00010
MILES 0009.56 0011.32 000.96    .      .      .      .      .     .     .      .      .

                                                        DESCRIPTION

                                   DESCRIPTION

                                          CARDS

                                              FOR

                                                STATION

                                                     LOCATION

                                                            007
```

FIGURE 97

```
STORET RETRIEVAL DATE 69/04/14
0328A
                                                              950007          007

                                                              UNKNOWN CR-0.96 MI FR BETA CREEK
                                                              95 STATE 95
                                                              MAJOR BASIN 32
                                                              MINOR BASIN 20 TERMINAL STREAM 003
                                                              EXAMPLE                2111204

                         00010     00300     00400     00410     00940     00310     00011     01046     00610     31503
  DATE    TIME DEPTH     WATER      DO        PH       T ALK   CHLORIDE    BOD       WATER     IRON    AMMONIA   COLIFORM
  FROM     OF            TEMP                          CACO3      CL      5 DAY      TEMP    DISOLVED   NH3-N    DLY ENDO
   TO     DAY  FEET      CENT      MG/L      S U       MG/L      MG/L      MG/L      FAHN      UG/L      MG/L    MF/100ML
19/05/10                 13.6       8.2                           40
```

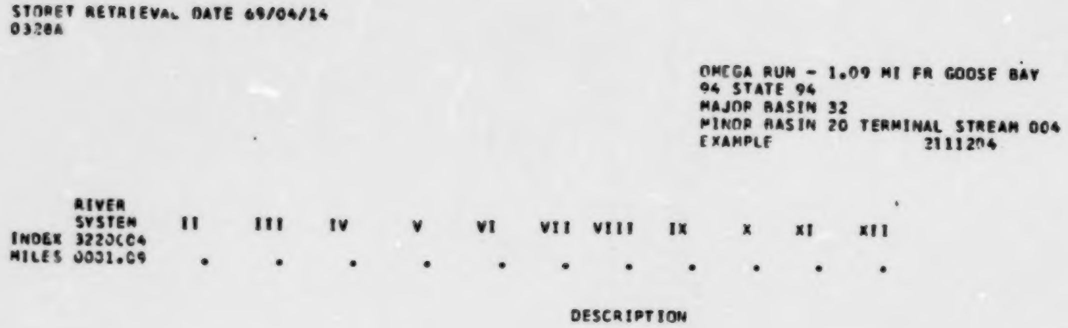
FIGURE 98

```
STORET RETRIEVAL DATE 69/04/14
0328A
                                                                    950004          004
                                                                   43 40 31.0 062 30 05.0
                                                                   RAPID R. RT SIDE 2 MI FR MOUTH
                                                                   95 STATE 95
                                                                   MAJOR BASIN 32
                                                                   MINOR BASIN 2C TERMINAL STREAM 003
                                                                   EXAMPLE                2111204
                                                                   1                      0008 FEET  DEPTH

      RIVER
      SYSTEM     II     III    IV     V     VI    VII  VIII   IX     X     XI    XII
INDEX 3220004
MILES 0002.00       .      .      .     .     .     .     .     .     .     .     .

                                                          DESCRIPTION

                                  DESCRIPTION

                                         CARDS

                                             FOR

                                               STATION

                                                    LOCATION

                                                           004
```

FIGURE 99

```
STORET RETRIEVAL DATE 69/04/14
0328A
                                                                          950004          004
                                                                         43 40 31.0 062 30 05.0
                                                                         RAPID R. RT SIDE 2 MI FR MOUTH
                                                                         55 STATE 95
                                                                         MAJOR BASIN 32
                                                                         MINOR BASIN 20 TERMINAL STREAM 003
                                                                         EXAMPLE                  2111204
                                                                         1                        0008 FEET  DEPTH
                            00010      00300      00400      00410      00940      00310      00011      01046      00610      31503
  DATE     TIME DEPTH     WATER        DO         PH       T ALK     CHLORIDE      BOD       WATER       IRON     AMMONIA    COLIFORM
  FROM      OF            TEMP                              CACO3        CL       5 DAY      TEMP     DISOLVED    NH3-N     DLY ENDO
   TO      DAY   FEET     CENT        MG/L       S U        MG/L       MG/L       MG/L       FAHN       UG/L       MG/L     MF/100ML

19/05/10  08 00              9.5       12.0       8.20                                      8.0K
19/06/11  08 00 0000         4.1        3.1       7.60                             155
          08 00 0005         2.2       15.2                            89
```

FIGURE 100



```
STORET RETRIEVAL DATE 69/04/14
0328A

                                                         OMEGA RUN - 1.09 MI FR GOOSE BAY
                                                         94 STATE 94
                                                         MAJOR BASIN 32
                                                         MINOR BASIN 20 TERMINAL STREAM 004
                                                         EXAMPLE                 2111204

      RIVER
      SYSTEM    II     III    IV     V      VI     VII  VIII   IX     X     XI     XII
INDEX 3220C04
MILES 0031.09     .      .      .      .      .      .     .      .      .     .      .

                                                 DESCRIPTION
```

FIGURE 101

```
STORET RETRIEVAL DATE 69/04/14
0328A
                                                                 OMEGA RUN - 1.09 MI FR GOOSE BAY
                                                                 54 STATE 94
                                                                 MAJOR BASIN 32
                                                                 MINOR BASIN 20 TERMINAL STREAM 004
                                                                 EXAMPLE              2111204

                      00010     C030C     C0400     00410     0094C     C0310     C0011     01046     C0610     31503
  DATE   TIME DEPTH  WATER       DO        PH      T ALK    CHLORIDE    BOD      WATER      IRON    AMMONIA   COLIFORM
  FROM    OF          TEMP                          CACO3      CL       5 DAY      TEMP    DISOLVED  NH3-N    DLY ENDO
  TO     DAY  FEET    CENT      MG/L       S U      MG/L      MG/L      MG/L       FAHN     UG/L      MG/L    MF/100ML

19/05/10 09 00                     4.7                                     3.1       8.2
19/06/11 10 00                              8.70                  46     10.5        6.3
```

FIGURE 102

```
STORET RETRIEVAL DATE 69/04/14                                     950002          002
0320A                                                             43 23 10.5 062 30 05.0
                                                                  GOOSE BAY EAST
                                                                  95 STATE 95
                                                                  MAJOR BASIN 32
                                                                  MINOR BASIN 20
                                                                  EXAMPLE              2111204
                                                                  1                   0110 FEET  DEPTH







                                                      DESCRIPTION

                        DESCRIPTION

                                  CARDS

                                       FOR

                                          STATION

                                                 LOCATION

                                                           002
```

FIGURE 103

```
STORET RETRIEV.. DATE 69/04/14
0328A
                                                     95CC02          002
                                                    43 23 10.5 062 30 05.0
                                                    GOOSE BAY EAST
                                                    95 STATE 95
                                                    MAJOR BASIN 32
                                                    MINOR BASIN 20
                                                    EXAMPLE                  2111204
                                                    1                      0110 FEET  DEPTH
                              00010      00300      00400      00410      00940      00310      00011      01046      00610      31503
  DATE    TIME DEPTH   WATER       DO         PH       T ALK     CHLORIDE     BOD       WATER       IRON     AMMONIA   COLIFORM
  FROM     OF          TEMP                            CACO3       CL        5 DAY      TEMP      DISOLVED   NH3-N    DLY ENDO
   TO     DAY   FEET   CENT       MG/L       S U       MG/L       MG/L       MG/L       FAHN       UG/L       MG/L     MF/100ML

                                                         52         33
19/05/10 14 00            8.2       6.1
19/06/11 11 30 0000      11.0       7.5       7.90                  28         2.1
         11 30 0015       9.5       3.7       8.20                             5.6
19/06/11       0110       6.5       1.5       9.10
```

FIGURE 104

```
STORET RETRIEVAL DATE 69/04/14
0320A
                                                                   950004          004
                                                                  43 40 31.0 062 30 05.0
                                                                  RAPID R. RT SIDE 2 MI FR MOUTH
                                                                  95 STATE 95
                                                                  MAJOR BASIN 32
                                                                  MINOR BASIN 20 TERMINAL STREAM 003
                                                                  EXAMPLE              2111204
                                                                  1                   0008 FEET  DEPTH

      RIVER
      SYSTEM   II     III    IV      V     VI    VII  VIII    IX     X    XI     XII
INDEX 3220004
MILES 0002.00    .       .      .       .      .     .     .     .      .     .     .

                                                     DESCRIPTION

                       DESCRIPTION

                                 CARDS

                                      FOR

                                          STATION

                                                LOCATION

                                                           004
```

FIGURE 105

```
STORET RETRIEVAL DATE 69/04/14
0328A
                                                             950004         004
                                                            43 40 31.0 062 30 05.0
                                                            RAPID R. RT SIDE 2 MI FR MOUTH
                                                            95 STATE 95
                                                            MAJOR BASIN 32
                                                            MINOR BASIN 20 TERMINAL STREAM 003
                                                            EXAMPLE                2111204
                                                            1                      0008 FEET  DEPTH

                             00010      00300      00400      00410      00940      00310      00011      01046      00610      31503
  DATE    TIME DEPTH  WATER       DO         PH       T ALK    CHLORIDE     BOD       WATER      IRON     AMMONIA   COLIFORM
  FROM     OF         TEMP                            CACO3       CL       5 DAY      TEMP    DISOLVED    NH3-N    DLY ENDO
   TO     DAY  FEET   CENT       MG/L       S U       MG/L       MG/L      MG/L       FAHN      UG/L       MG/L    MF/100ML

19/05/10 08 00           9.5       12.0       8.20                                    8.0K
19/06/11 08 00 0000      4.1        3.1       7.60                  155
         08 00 0005      2.2       15.2                  89
```

FIGURE 106

```
STORET RETRIEVAL DATE 69/04/14
0328A
                                                                 950005           005
                                                                43 40 31.0 062 30 05.1
                                                                PAPIO R. LF SIDE 2 MI FR MOUTH
                                                                95 STATE 95
                                                                MAJOR BASIN 32
                                                                MINOR BASIN 20 TERMINAL STREAM 003
                                                                EXAMPLE               2111204
                                                                1                    0005 FEET  DEPTH

      RIVER
      SYSTEM    II     III    IV      V     VI    VII  VIII   IX     X    XI    XII
INDEX 3220003
MILES 0002.00     .      .      .      .      .     .     .     .     .      .     .

                                                     DESCRIPTION

                       DESCRIPTION

                                 CARDS

                                      FOR

                                         STATION

                                                LOCATION

                                                          005
```

FIGURE 107

```
STORET RETRIEVAL DATE 69/04/14
0328A
                                                                  950005          005
                                                                 43 40 31.0 062 30 05.1
                                                                 RAPID R. LF SIDE 2 MI FR MOUTH
                                                                 95 STATE 95
                                                                 MAJOR BASIN 32
                                                                 MINOR BASIN 20 TERMINAL STREAM 003
                                                                 EXAMPLE              2111204
                                                                                     0005 FEET  DEPTH
                      00010    00300     00400     00410      00940     00310    00011     01046     00610     31503
  DATE   TIME DEPTH  WATER       DO       PH      T ALK     CHLORIDE    BOD     WATER      IRON   AMMONIA   COLIFORM
  FROM    OF          TEMP                        CACO3        CL      5 DAY     TEMP   DISOLVED   NH3-N    DLY ENDO
   TO    DAY  FEET    CENT      MG/L      S U      MG/L       MG/L      MG/L     FAHN      UG/L      MG/L    MF/100ML
19/05/10                10.0       6.5
19/05/11       COMP                                                        6.2
19/06/11                 5.0       5.5                  95       185
```

FIGURE 108

```
STORET RETRIEVAL DATE 69/04/14
0328A
                                                                  950003           003
                                                                 43 20 05.0 062 30 05.5
                                                                 GOOSE BAY WEST
                                                                 95 STATE 95
                                                                 MAJOR BASIN 32
                                                                 MINOR BASIN 20
                                                                 EXAMPLE                2111204
                                                                 I                     0032 FEET  DEPTH



                                                     DESCRIPTION

                       DESCRIPTION

                                 CARDS

                                      FOR

                                         STATION

                                                LOCATION

                                                          003
```

FIGURE 109

```
STORET RETRIEVAL DATE 69/04/14
0328A
                                                            950003        003
                                                           43 20 05.0 062 30 05.5
                                                           GOOSE BAY WEST
                                                           95 STATE 95
                                                           MAJOR BASIN 32
                                                           MINOR BASIN 20
                                                           EXAMPLE                     2111204
                                                           1                          0032 FEET  DEPTH
                           00010    00300    00400    00410    00940     00310    00011    01046    00610     31503
  DATE    TIME DEPTH  WATER     DO       PH     T ALK   CHLORIDE    BOD      WATER    IRON    AMMONIA   COLIFORM
  FROM     OF          TEMP                      CACO3      CL      5 DAY     TEMP   DISOLVED  NH3-N    DLY ENDO
   TO     DAY  FEET    CENT     MG/L     S U     MG/L     MG/L      MG/L     FAHN     UG/L     MG/L    MF/100ML

19/05/10 12 00 0010      7.1     4.0L
19/06/11 22 00           8.2     3.5
         09 15 0030      4.5     1.5
```

FIGURE 110

```
STORET RETRIEVAL DAT, 69/04/14
0328A
                                                         940013          13
                                                        43 02 10.0 062 31 11.0
                                                        BAY VILLAGE WATER INTAKE
                                                        94 STATE 94
                                                        MAJOR BASIN 32
                                                        MINOR BASIN 20
                                                        EXAMPLE                7112204
                                                        2                     0050 FEET  DEPTH
```

FIGURE 111

```
STORET RETRIEVAL DATE 69/04/14
0328A
                                                  940013          13
                                                  43 02 10.0 062 31 11.0
                                                  BAY VILLAGE WATER INTAKE
                                                  94 STATE 94
                                                  MAJOR BASIN 32
                                                  MINOR BASIN 20
                                                  EXAMPLE                  2112204
                                                  2                      0050 FEET  DEPTH
  DATE   TIME DEPTH   00010     00300     00400     00410     00940     00310     00011     01046     00610     31503
  FROM    OF         WATER       DO        PH      T ALK    CHLORIDE    BOD      WATER      IRON    AMMONIA   COLIFORM
   TO    DAY   FEET   TEMP                         CACO3       CL      5 DAY     TEMP    DISOLVED   NH3-N    OLY ENDO
                      CENT      MG/L      S U      MG/L      MG/L      MG/L      FAHN      UG/L      MG/L    MF/100ML
19/05/10 10 00 0020     5.2       6.7                                    1.2                0.050     0.210        200
19/06/11 10 00 0020     5.3       4.3                                    0.8                0.010                   80
```

FIGURE 112

CHAPTER IV

STATION LOCATION STORAGE

	Outline Number
Station Location Storage	6

STATION LOCATION STORAGE

I STORAGE FUNDAMENTALS

Before water quality data can be stored and retrieved the point of sampling must be adequately described and located in STORET format. Data of this type are not likely to be changed and are called station location data.

A Types of Station Location Data

1 Required

Coding to identify or describe the agency (user), unlocking key, unit in which depth is measured, station type, and primary station number must be supplied each time station location information is stored.

2 Optional

Coding to identify or describe the unlocking date, secondary station number (s), state, county, city, latitude, longitude, precision of coordinate location, station depth, hydrologic index, and descriptive information is optional. In addition, certain computer card columns or groups of columns (called "fields") may be used to control the method of station location storage.

3 General

Certain information (such as user code) will normally be identical for all stations involved in a single storage. This general or "constant" information is coded on a single card placed at the beginning of the storage deck.

4 Specific

Other information (such as primary station number) will be specific for each station. Such information is normally coded on unique cards or sets of cards in the storage deck.

B Station Codes

1 Prime station number

The prime station code represents the "title" by which STORET identifies a location at which data has been collected. Each element of water quality data in STORET must be associated with a primary station code. Once this code is stored it may not be altered or deleted without deleting and restoring the entire associated record of station and water quality data.

2 Secondary station number (s)

Each sampling station may be identified in STORET by not only one but four unique station numbers. This option greatly increases STORET flexibility.

a Let us suppose that Project A of the U.S. Environmental Protection Agency and District Office B of a state water pollution control agency have agreed to conduct complimentary but different water quality analyses at the same location. Project A assigns its station numbers on a purely numerical basis. District Office B assigns its station numbers on an alpha-numeric (combination of letters and numbers) basis indicating the county and station number. Both agencies freely exchange reports and data listings. Normally each agency would be required to maintain a reference list to determine whether data reported by its counterpart corresponds to one of its own stations.

b Using STORET it would be possible to associate location and water quality data with both station numbers and both stations numbers would appear on the STORET output record. Thus the necessity for maintaining a separate reference list subject to loss or error is eliminated.

c Corresponding EPA, state, and USGS station numbers have been stored for stations 6, 7, 8, and 9 of the Typical Storet Problem (Figures 18 to 27 in outline 5).

This practice illustrates only one application of secondary station numbers. Other applications include re-numbering of existing stations, addition of familiar alphabetic station codes, etc.

C Identifying Locations

The location of a sampling station may be identified in STORET by conventional geographic coordinates, a hydrologic index, or both.

1 Hydrologic index

A hydrologic index is a numerical code which identifies the location of a sampling station on a defined river system by defining its distance from and relationship to the mouth of the river system. STORET uses the hydrologic index to sort data records so that output records will be arranged in hydrologic order, i.e. in order of stream flow. The detailed procedure for formulating a hydrologic index is explained in Outline 3.

2 Geographical coordinates

Certain stations--such as wells and stations in open bodies of water (lakes, ocean)--can be located hydrologically only with extreme difficulty. STORET is capable of locating these and other stations by conventional geographic coordinates--latitude and longitude. Retrieval of stations located by geographical coordinates can be restricted to a prescribed geographical area.

3 Whenever possible, stations should be located by both hydrologic index and geographic coordinates. This makes retrieval by either method possible. Stations 4 and 5 of the Typical STORET Problem are stored by both methods (Figures 7 to 13 in outline 5).

D Storage Options

Storage of station location (and water quality) data is not simply a process of completing prescribed fields on computer cards. By judicious use of card types and careful coding of use control fields the actual method of storage may be controlled to reduce keypunching or satisfy operational requirements (such as the need for dual station numbers).

1 Card selection

Each of the STORET Card Types has specific uses. Users should evaluate storage requirements and select card types appropriate to the needs. Cards must be arranged in the storage deck in a prescribed order. STORET cards include:

a Agency (A) card

b Station (S) card

c Latitude-Longitude card 0

d River-Mile-Index cards 1 and 2

e Header cards 3 and 4

f Descriptive paragraph card 5

g Water quality (parametric) data card

The Card Type is indicated by the code entered in column 80.

2 Use control

Codes in certain fields on a card may determine the function of that or another card (or fields of another card).

3 Depending upon card selection and use field control, options are available for storage of the following station location data:

a Prime station number

b Secondary station number (s)

c State, county, city codes

II DECK SET-UP

A The normal arrangement of cards for STORET storage is shown in Figure 1. Depending upon card selection and use control coding one or more cards may be omitted. Conditions specified on a leading card (such as station type or station number) apply to or control storage of all cards which follow until another card of the same type is encountered. Thus it becomes possible to arrange cards in "sets" as shown in Table 1 and Figure 2.

B The cards required for storage of station location data of the Typical STORET Problem are arranged in:

1 Seven sets preceded by Agency (A) Cards to allow storage of unique station types.

2 Fourteen sets preceded by Station (S) Cards to allow storage of secondary station numbers and state codes.

Card Formats

Station location data may be stored by using an Agency (A) Card; a Station (S) Card; a Latitude-Longitude Card 0; River-Mile-Index Cards 1 and 2; Header Cards 3 and 4; and/or Descriptive Paragraph Card 5. The card type is determined by the code in column 80 (i.e. A, S, 0, 1, 2, 3, 4, 5).

A Agency (A) Card (Figure 3)

The Agency (A) Card contains general information common to all stations involved in a single station storage. This card must be completed for any STORET operation. It may also be used to restrict data availability.

1 Agency (user) Code, Columns 1-8

The agency (user) code associates data with a contributing organization. User codes are assigned by STORET Operations. Individual organizational elements of an agency (such as regional offices) may be assigned unique agency (user) codes. This field must be completed. STORET Operations has assigned an agency (user) code of EXAMPLE to be used with the typical STORET Problem.

2 Unlocking key, Columns 17-24

Columns 17-24 contain an arbitrary alpha-numeric code formulated and supplied by the user during initial storage. Thereafter, STORET will neither retrieve information nor store new data at established stations unless the identical code is provided. Thus the unlocking key becomes a safeguard against unauthorized or mistaken storage or retrieval of data. A one to eight digit code (left justified) is always required in this field; unused columns may be left blank.

STORET Operations used an unlocking key of TEST in original storage of the Typical STORET Problem.

3 User name, location, etc., Columns 25-61

The name, location, and telephone number of the individual responsible for storage should be entered in this field. Should problems arise, STORET Operations will use this information in making contacts. Information in this field is not stored.

4 Depth units, Column 62

The unit in which station and sample depths are recorded is identified by the code in column 62. Only one code, i.e., either F (feet) or M (meters) is allowed. Since all depths of the Typical STORET Problem are reported in feet this field has been coded with an F.

5 Store code, Columns 63-65

Columns 63-65 may be used to store secondary station codes as follows:

a If column 63 is coded with a 1, latitude-longitude will be stored as a secondary station number.

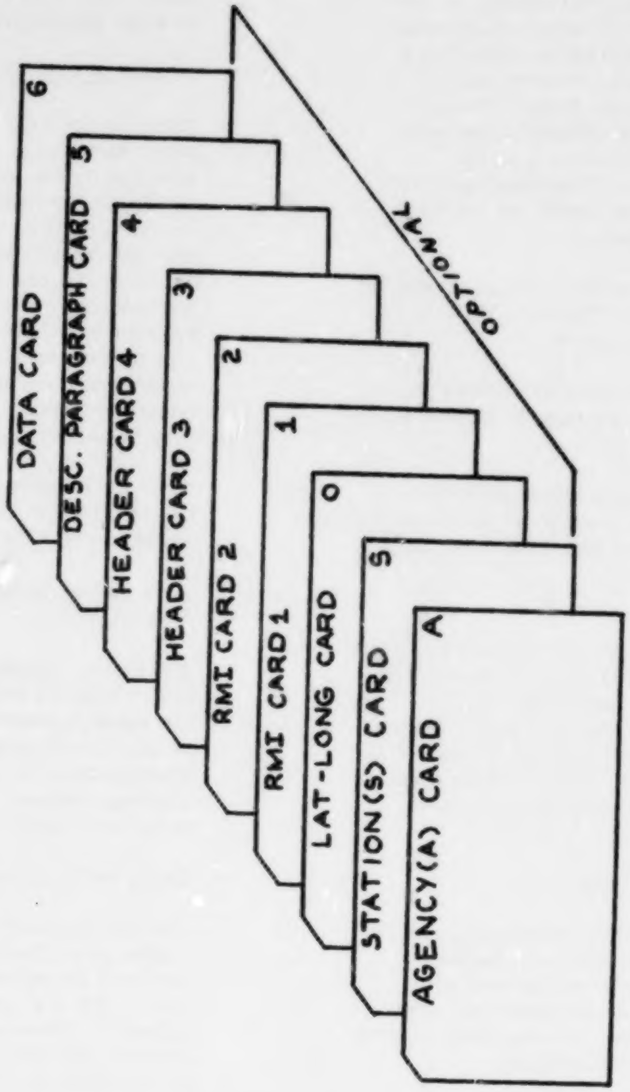


FIGURE 1 STORAGE DECK SET-UP

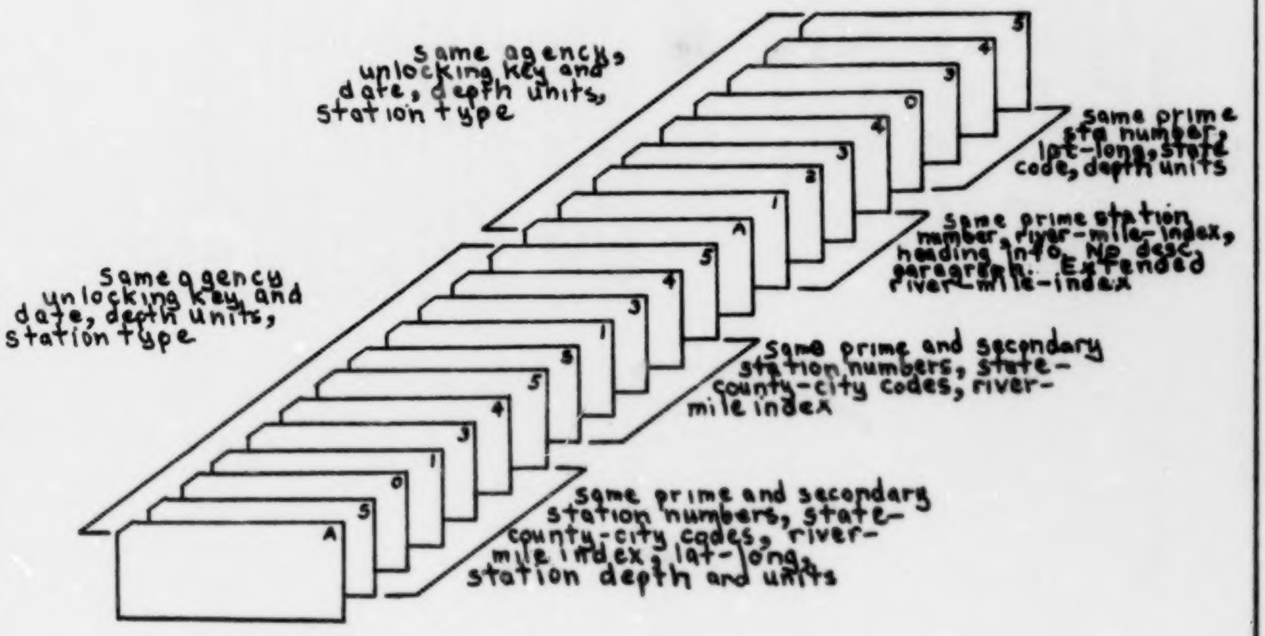

same agency, unlocking key and date, depth units, station type
same agency unlocking key and date, depth units, station type
same prime sta number, lat-long, state code, depth units
same prime station number, river-mile-index, heading info, No desc. paragraph. Extended river-mile-index
same prime and secondary station numbers, state-county-city codes, river-mile index
same prime and secondary station numbers, state-county-city codes, river-mile index, lat-long, station depth and units
A
5
0
1
3
4
5
5
1
3
4
5
A
1
2
3
4
0
3
4
5

FIGURE 2 ARRANGEMENT OF STORAGE CARDS IN SETS

TABLE 1

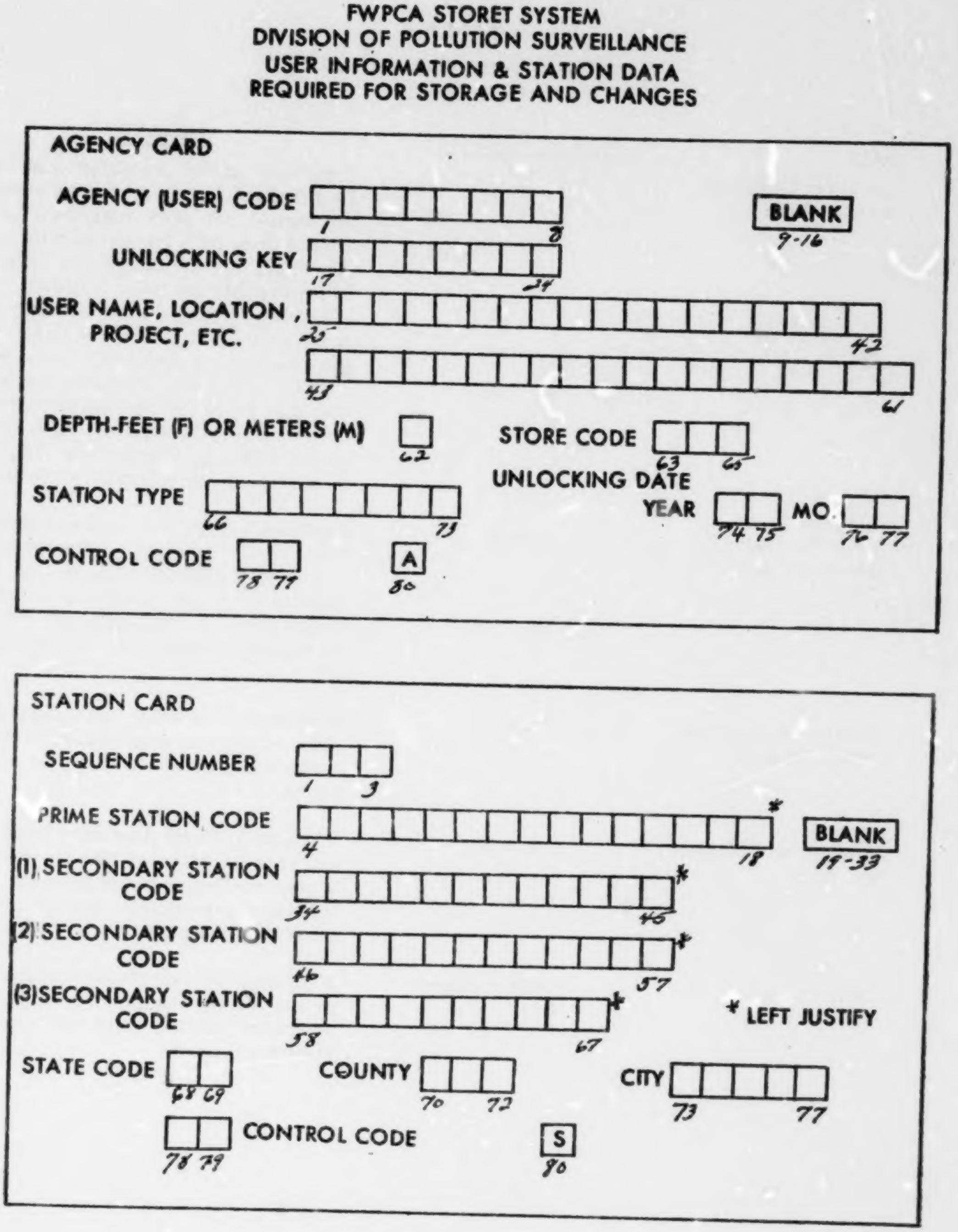
DECK SET-UP FOR STORAGE

Card	Number of Cards	Remarks
Agency (A)	1	The first card of the deck must be an Agency (A) card. If the control code (columns 78-79) is CD or CT then only Station (S) cards may follow until the next Agency (A) card. a) If a '1' is coded in column 63, latitude-longitude is stored as secondary station. b) If a '1' is coded in column 64, station number in columns 1-6 of river-mileage-index location card is stored as secondary station. c) If a '1' is coded in column 65, the state-county-city code is stored as secondary station.
Data	No limit	(Optional) Station number picked up from data card. (Data card positioned here only if station was stored previously and/or a station (S) card is not required).
Station (S)	1	(Optional) If control code (columns 78-79) is DS, the next card must be a Station (S) or Agency (A) card. If use control is blank the next card must be a data card. If a station (S) card is not used then prime station number will be the latitude-longitude if latitude and longitude header card is next. Otherwise, it will be extracted from columns 1-6 of river-mileage-index location card. In addition, the state code will be picked up from either columns 33-34 of latitude-longitude header card or from column 1-2 of river-mileage-index location card.

TABLE 1

DECK SET-UP FOR STORAGE
(Continued)

Card	Number of Cards	Remarks
Latitude-Longitude Header Card	1	(Optional) If the precision code field is left blank the computer assumes that the station has previously been stored and ignores information on this card. However, for the data cards immediately following this card the latitude-longitude is used as the station number. If the precision code field is not blank, information from this card will be stored. NOTE: If the prime station number was obtained from the Station (S) card and column 63 of the Agency (A) card was coded with a 1, the latitude-longitude is stored as the secondary station code.
River-Mileage-Index Location Card (s)	1 or 2	(Optional) If prime station number has been stored by either a Station or Latitude-Longitude Header Card and column 64 of the Agency (A) card is coded with a 1 then columns 1-6 will be stored in secondary station code (3).
Header or Location Cards III & IV	2	(Optional) Preceding card must be either river-mileage-index location, latitude, longitude header, or station (S) card.
Header or Location Cards V	1 to 11	(Optional) Preceding card must be either a Location or Header Card IV, a river-mileage-index location card I, or latitude-longitude, header card I, or station (S) card.
Data Card	Any number	(Optional) Station number will be the prime station number generated by the previous location or header cards or station (S) card.



FWPCA STORET SYSTEM
DIVISION OF POLLUTION SURVEILLANCE
USER INFORMATION & STATION DATA
REQUIRED FOR STORAGE AND CHANGES

AGENCY CARD

AGENCY (USER) CODE 1 8
BLANK 9-16
UNLOCKING KEY 17 24
USER NAME, LOCATION, PROJECT, ETC. 25 42
43 61
DEPTH-FEET (F) OR METERS (M) 62
STORE CODE 63 65
UNLOCKING DATE
YEAR 74 75
MO. 76 77
STATION TYPE 66 73
CONTROL CODE 78 79
A 80

STATION CARD

SEQUENCE NUMBER 1 3
PRIME STATION CODE * 4 18
BLANK 19-33
(1) SECONDARY STATION CODE * 34 45
(2) SECONDARY STATION CODE * 46 57
(3) SECONDARY STATION CODE * 58 67
* LEFT JUSTIFY
STATE CODE 68 69
COUNTY 70 72
CITY 73 77
78 79 CONTROL CODE
S 80

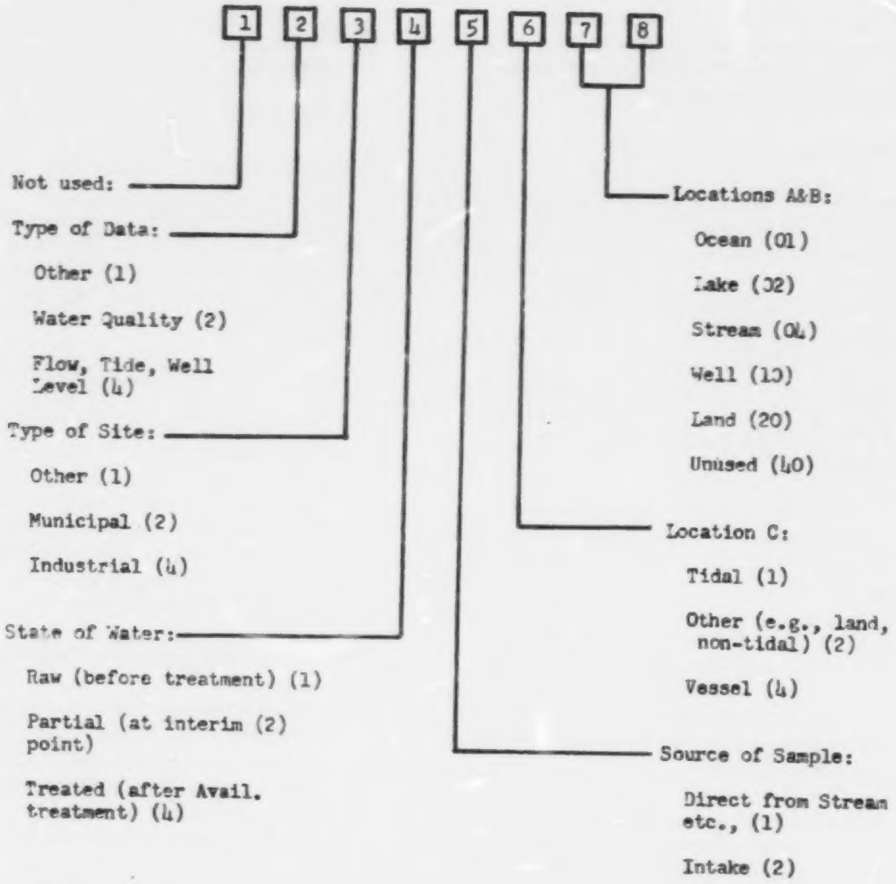
FIGURE 3

STORET SYSTEM

STATION TYPE CODES

AVAILABLE CHARACTERS (8)

COLUMNS 66-73 ON AGENCY (A) CARD



Not used: — 1

Type of Data: — 2
- Other (1)
- Water Quality (2)
- Flow, Tide, Well Level (4)

Type of Site: — 3
- Other (1)
- Municipal (2)
- Industrial (4)

State of Water: — 4
- Raw (before treatment) (1)
- Partial (at interim point) (2)
- Treated (after Avail. treatment) (4)

Source of Sample: — 5
- Direct from Stream etc., (1)
- Intake (2)

Location C: — 6
- Tidal (1)
- Other (e.g., land, non-tidal) (2)
- Vessel (4)

Locations A&B: — 7, 8
- Ocean (01)
- Lake (02)
- Stream (04)
- Well (10)
- Land (20)
- Unused (40)

Notes:
1) On Storage every digit must be coded
2) Retrieval - every digit must be coded

FIGURE 4

b If column 64 is coded with a 1, the code in columns 1-6 of the next River-Mile-Index Card 1 will be stored as a secondary station number.

c If column 65 is coded with a 1, the state-county-city codes will be stored as a secondary station number.

d Use of columns 63-65 to store secondary station numbers is optional. The fields may be coded with a 1 or left blank.

6 Station type, Columns 66-73

A station type code must be entered in columns 66-73. The field must be completely filled with numerical digits. The appropriate code is developed from standard STORET station type codes shown in Figure 4.

a In the typical problem the station type code (02111201) for station 2 in Goose Bay was developed as shown in Table 2.

b Station 6 is similar but not identical to station 2. The type code (06111204) for station 6 was developed as shown in Table 3.

c The station type field must always be completed during initial storage. Otherwise, it becomes impossible for the same or other users to limit retrievals to stations having specified characteristics.

d If stations of more than one type are to be stored, separate agency (A) cards will be required for each type.

7 Unlocking date, Columns 74-77

The unlocking date (year, month) represents that date after which data cannot be retrieved without providing the unlocking key. If an unlocking date is not desired, code this field with 9999. The field must be completely filled with numerical digits.

8 Card use control, Columns 78-79

Code this field with:

a CD to change the unlocking date

b CT to change the station type

c Blanks for all other types of storage and deletion

9 Card type code, Column 80

Code this column with an A.

B Station (S) Card (Figure 3)

The Station (S) Card contains information specific to each station (such as station number). It may also be used to delete or change station location and/or water quality data.

1 Sequence number, Columns 1-3

Information in this field is not stored. A sequence number which corresponds to the first three columns of all other location and water quality data cards for the same station may be punched here to allow resorting of the storage deck should the cards be dropped or become disarranged.

2 Prime station code, Columns 4-18

The prime station code must be coded, left justified, in this field. If no entry is made the entire card will be rejected. Numeric and alpha-numeric codes of 1 to 15 digits are acceptable; unused columns may be left blank.

a Users should develop and assign prime station codes with care. Once this code is stored it may not be altered or deleted without deleting and restoring the entire associated record of location and water quality data.

TABLE 2. TYPE CODING FOR STATION 2

	Column 66	67	68	69	70	71	72	73
1. not used	0	0	0	0	0	0	0	0
2. Water Quality		2						
3. Other			1					
4. Raw				1				
5. Direct					1			
6. Other						2		
7,8. Lake							0	1
Total	0	2	1	1	1	2	0	1

TABLE 3. TYPE CODING FOR STATION 6

	Column 66	67	68	69	70	71	72	73
1. Not used	0	0	0	0	0	0	0	0
2. Water Quality		2						
2. Flow		4						
3. Other			1					
4. Raw				1				
5. Direct					1			
6. Other						2		
7, 8. Stream							0	4
Total	0	6	1	1	1	2	0	4

b Since location and water quality data cards accommodate only station numbers of 6 or fewer digits, there is a disadvantage to larger prime station numbers. Storage of location or water quality data under such station codes requires keypunching of a leading station (S) card for each station.

c In the Typical STORET Problem prime station codes indicate the state (first two digits) and the number of the station within that state (last four digits).

2 Secondary station codes, Columns 34-45, 46-57, 58-67

Each sampling station may also be identified by up to three secondary station codes. Requirements for completion of these fields are identical to those for completion of the prime station field, except that any or all secondary station fields may be left blank. In the Typical STORET Problem state and USGS station numbers are stored as secondary station codes for stations 6, 7, 8, and 9.

3 State, county, and city codes, Columns 68-69, 70-72, 73-77

a State and county codes are based upon federal general data standards adopted by the National Bureau of Standards. These codes are presented in Appendix [illegible]. Hypothetical state codes 94 and [illegible] have been used in the Typical STORET Problem.

b City codes are based upon codes adopted by the U.S. Postal Service; a complete listing of city codes for any state is available from STORET Operations.

c Only numerical characters may be entered in these fields. Any or all fields may be left blank.

d If a station (s) card is being used to perform original storage, the state code (columns 68-69) should always be completed. Otherwise, limitation of retrieval to a specified state becomes impossible.

4 Card use control, Columns 78-79

Code this field with:

a NS if the station (S) card is being used in original storage of station location data.

b Blanks if the station (S) card is being used to provide a prime station number to be associated with following water quality data cards (See III B 2 b).

c DD to delete all water quality data for a station. For this use columns 34-77 are ignored and prime station code must be provided.

d DS to delete both station location and water quality data for a station. For this use columns 34-77 are ignored and prime station code must be provided.

e CC to do the following:

1) Delete all old secondary station numbers.

2) Store new secondary station numbers on restore old secondary station numbers on the station (S) card.

3) For this use location information on new cards is substituted for former station information. If certain location information is not to be changed corresponding fields on location, header, and descriptive paragraph cards may be left blank.

5 Card type code, Column 80

Code this column with an S.

C Latitude-Longitude Card 0 (Figure 5)

1 Station number, Columns 1-6

Columns 1-6 may be coded with:

a Blanks if prime and/or secondary station numbers are indicated on a leading station (S) card. In this case columns 1-3 may be coded with a card sorting number identical to columns 1-3 of the preceding station (S) card.

b A 1-6 digit alpha-numeric prime or secondary station number if a leading station (S) card is not used. If location information is being stored for the first time STORET will recognize and store the code in this field as the prime station number. If location information has previously been stored, this field may contain either the prime or a secondary station code.

c All codes entered in this field should be left justified; unused columns may be left blank.

2 Latitude and longitude, Columns 7-13, 14-21

The geographical coordinates of the station location are coded in these fields. Both latitude and longitude values are recorded to 0.1 seconds. Both fields must be completely filled with numerical digits; a leading zero may be required in the longitude field.

3 Columns 22-27 are no longer used and may be left blank.

4 Precision code, Column 28

The degree of precision associated with the coded latitude and longitude values is indicated in column 28 as follows:

a Code 1--one tenth (0.1) seconds

b Code 2--one (1) second

c Code 3--ten (10) seconds

d Code 4--thirty (30) seconds

e Code 5--one (1) minute

f Code 6--ten (10) minutes

g Code 7--thirty (30) minutes

h Code 8--one (1) degree

In the Typical STORET Problem coordinates have been measured to a precision of 0.1 seconds (code 1).

5 Depth units, Column 29

Code this field with an F (feet) or M (meters).

6 Station depth, Columns 30-32

The depth of water or well at the station is entered in this field. This is not the sample depth. Unless station depth is entered on this card as location data it must be repunched and stored as water quality data each time new data is stored. This field must be completed with numerical digits; if station depth is unknown, code this field with 000.

7 State code, Columns 33-34

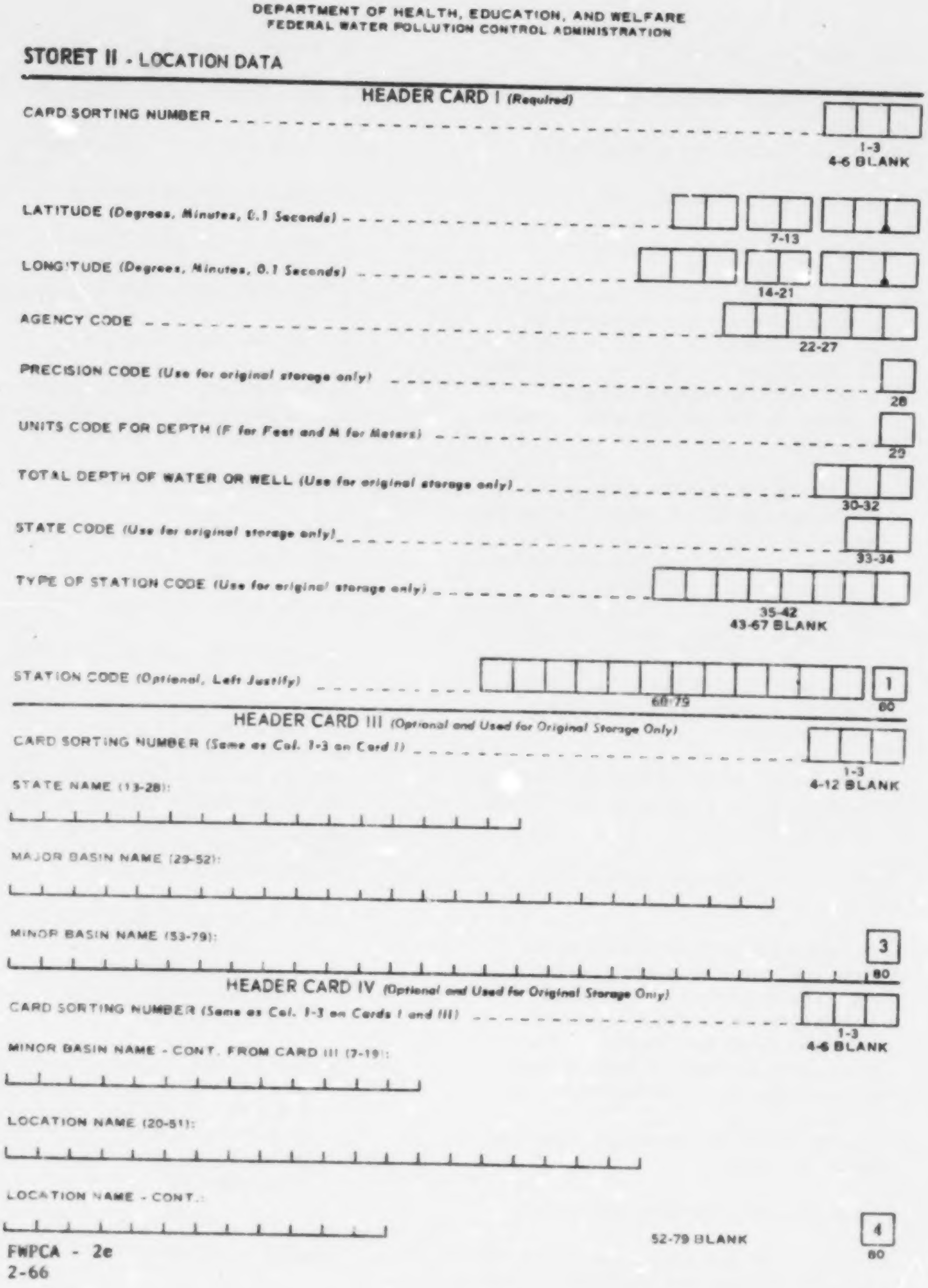
a If the state code is indicated on a previous station (S) card, code this field with blanks.

b If a leading station (S) card was not used or the state code was not previously indicated, code this field with the standard code adopted by the National Bureau of Standards (Appendix A).

8 Columns 35-79 are no longer used and may be left blank.

9 Card type code, Column 80

Code this field with a zero (0).



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - LOCATION DATA

HEADER CARD I *(Required)*

CARD SORTING NUMBER - - - - - - - - - - - - ☐☐☐ 1-3
4-6 BLANK

LATITUDE *(Degrees, Minutes, 0.1 Seconds)* - - - - - - - - ☐☐ ☐☐ ☐☐☐ 7-13

LONGITUDE *(Degrees, Minutes, 0.1 Seconds)* - - - - - - - - ☐☐☐ ☐☐ ☐☐☐ 14-21

AGENCY CODE - - - - - - - - - - - - ☐☐☐☐☐☐ 22-27

PRECISION CODE *(Use for original storage only)* - - - - - - - - ☐ 28

UNITS CODE FOR DEPTH *(F for Feet and M for Meters)* - - - - - - - - ☐ 29

TOTAL DEPTH OF WATER OR WELL *(Use for original storage only)* - - - - - - - - ☐☐☐ 30-32

STATE CODE *(Use for original storage only)* - - - - - - - - ☐☐ 33-34

TYPE OF STATION CODE *(Use for original storage only)* - - - - - - - - ☐☐☐☐☐☐☐☐ 35-42
43-67 BLANK

STATION CODE *(Optional, Left Justify)* - - - - - - - - ☐☐☐☐☐☐☐☐☐☐☐☐ 68-79 1 80

HEADER CARD III *(Optional and Used for Original Storage Only)*

CARD SORTING NUMBER *(Same as Col. 1-3 on Card I)* - - - - - - - - ☐☐☐ 1-3
4-12 BLANK

STATE NAME (13-28):

MAJOR BASIN NAME (29-52):

MINOR BASIN NAME (53-79): 3 80

HEADER CARD IV *(Optional and Used for Original Storage Only)*

CARD SORTING NUMBER *(Same as Col. 1-3 on Cards I and III)* - - - - - - - - ☐☐☐ 1-3
4-6 BLANK

MINOR BASIN NAME - CONT. FROM CARD III (7-19):

LOCATION NAME (20-51):

LOCATION NAME - CONT.:

52-79 BLANK 4 80

FWPCA - 2e
2-66

FIGURE 5

D River-Mile-Index (RMI) Card 1 (Figure 6)

1 Station number, Columns 1-6

Code this field according to procedures adopted for columns 1-6 of Latitude-Longitude Card 0 (See III C 1).

2 Hydrologic index, Columns 7-76

Columns 7-76 contain numerical codes locating the station on a defined river system. Detailed instructions for formulating a complete hydrologic index are contained in Outline 3; example coding is included in the Typical STORET Problem. These fields must be completely filled with numerical digits, including leading zeros, up to the last level coded. Fields for unused levels may be left blank.

3 Last level used, Columns 77-78

Columns 77-78 contain a two-digit numerical code indicating the hydrologic level at which the station is located. If this field is not completed the entire card is rejected.

4 Column 79 is no longer used and may be left blank.

5 Card type code, Column 80

Code this field with a 1.

E River-Mile-Index Card 2 (Figure 6)

This card is provided to continue the hydrologic index of River-Mile-Index Card 1. Columns 1-13 of the preceding card 1 are repeated on card 2. Procedures for completing columns 14-53 of card 2 are identical to those for completing columns 14-76 of card 1. Twelve hydrologic levels are available. Column 80 is coded with a 2.

F Header Cards 3 and 4 (Figures 5 and 6)

Information contained on these cards is printed as heading information on the STORET printout. Columns 1-6 are completed in the same manner as columns 1-6 of the Latitude-Longitude and River-Mile-Index cards. Columns 13-79 of Card 3 and 7-51 of Card 4 may be completed with alpha-numeric characters (including embedded blanks) describing the state name, major and minor basin names, and location name. Some users substitute sub-basin for minor basin names. Users should avoid unintentionally omitting column 79 when continuing the minor basin name from card 3 to card 4. Column 80 is coded with a 3 or 4.

G Descriptive Paragraph Card 5 (Figure 7)

Up to 792 alpha-numeric characters are available to store a descriptive paragraph relating collection conditions, etc. at each station location.

1 Columns 1-6 are completed according to procedures adopted for columns 1-6 of Cards 0-4.

2 Columns 7-78 represent one line of print in the output record. Alpha-numeric characters (including embedded blanks) are acceptable. Users should avoid leaving unintentional blanks in column 40 or 41. Eleven Type 5 Cards (and eleven corresponding 72-character lines of print) may be stored for each station.

3 Column 79 indicates the position of a line of print in the output record as follows:

a Code 0--Line 1

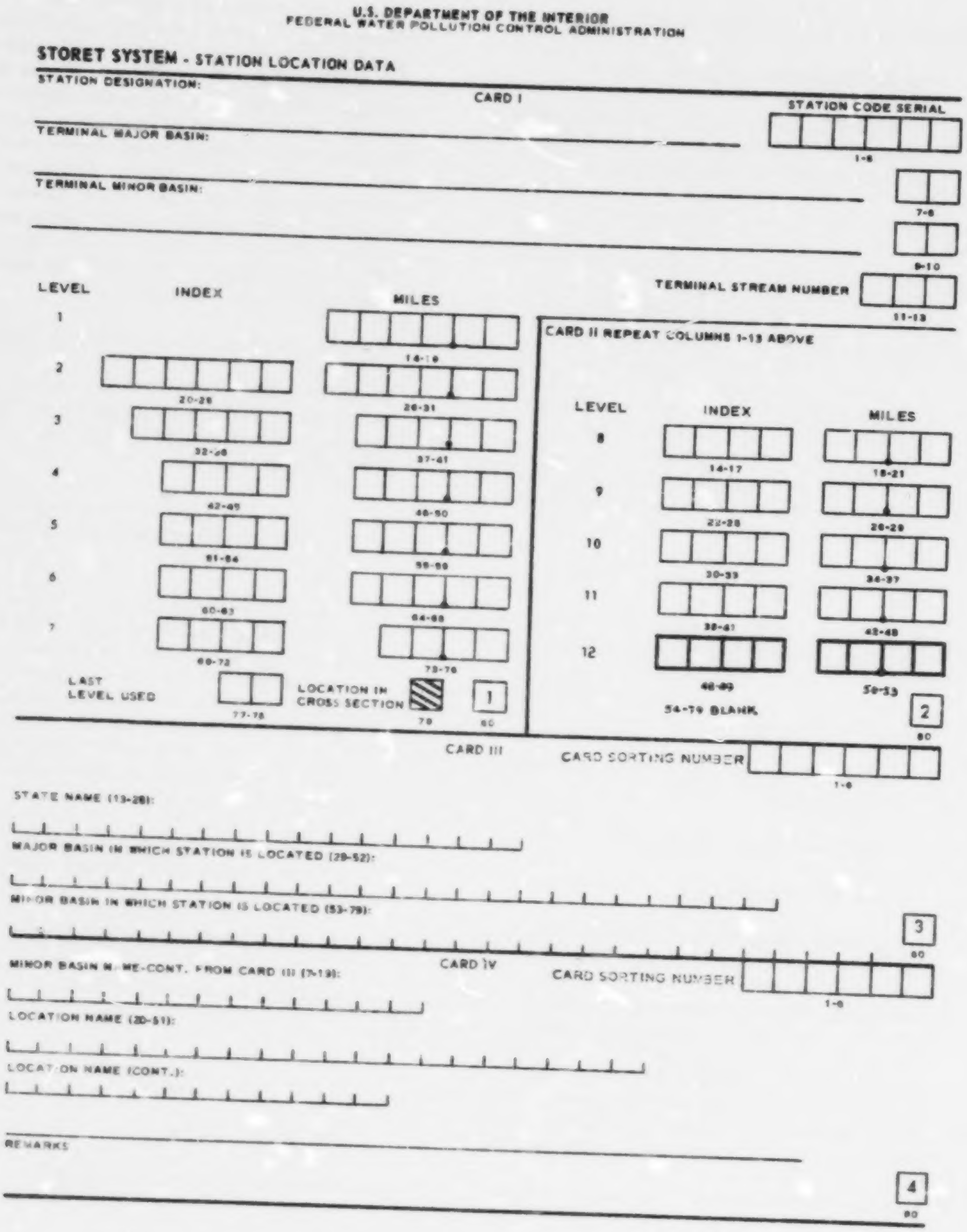
b Code 1--Line 2

.
.
.

j Code 9--Line 10

k Code J--Line 11

4 Column 80 is coded with a 5.



U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET SYSTEM - STATION LOCATION DATA

STATION DESIGNATION:

CARD I

STATION CODE SERIAL 1-6

TERMINAL MAJOR BASIN: 7-8

TERMINAL MINOR BASIN: 9-10

TERMINAL STREAM NUMBER 11-13

LEVEL	INDEX	MILES
1		14-19
2	20-25	26-31
3	32-36	37-41
4	42-45	46-50
5	51-54	55-59
6	60-63	64-68
7	69-72	73-76

LAST LEVEL USED 77-78

LOCATION IN CROSS SECTION ▨ 79

1 80

CARD II REPEAT COLUMNS 1-13 ABOVE

LEVEL	INDEX	MILES
8	14-17	18-21
9	22-25	26-29
10	30-33	34-37
11	38-41	42-45
12	46-49	50-53

54-79 BLANK

2 80

CARD III

CARD SORTING NUMBER 1-6

STATE NAME (13-28):

MAJOR BASIN IN WHICH STATION IS LOCATED (29-52):

MINOR BASIN IN WHICH STATION IS LOCATED (53-79):

3 80

CARD IV

CARD SORTING NUMBER 1-6

MINOR BASIN NAME-CONT. FROM CARD III (7-19):

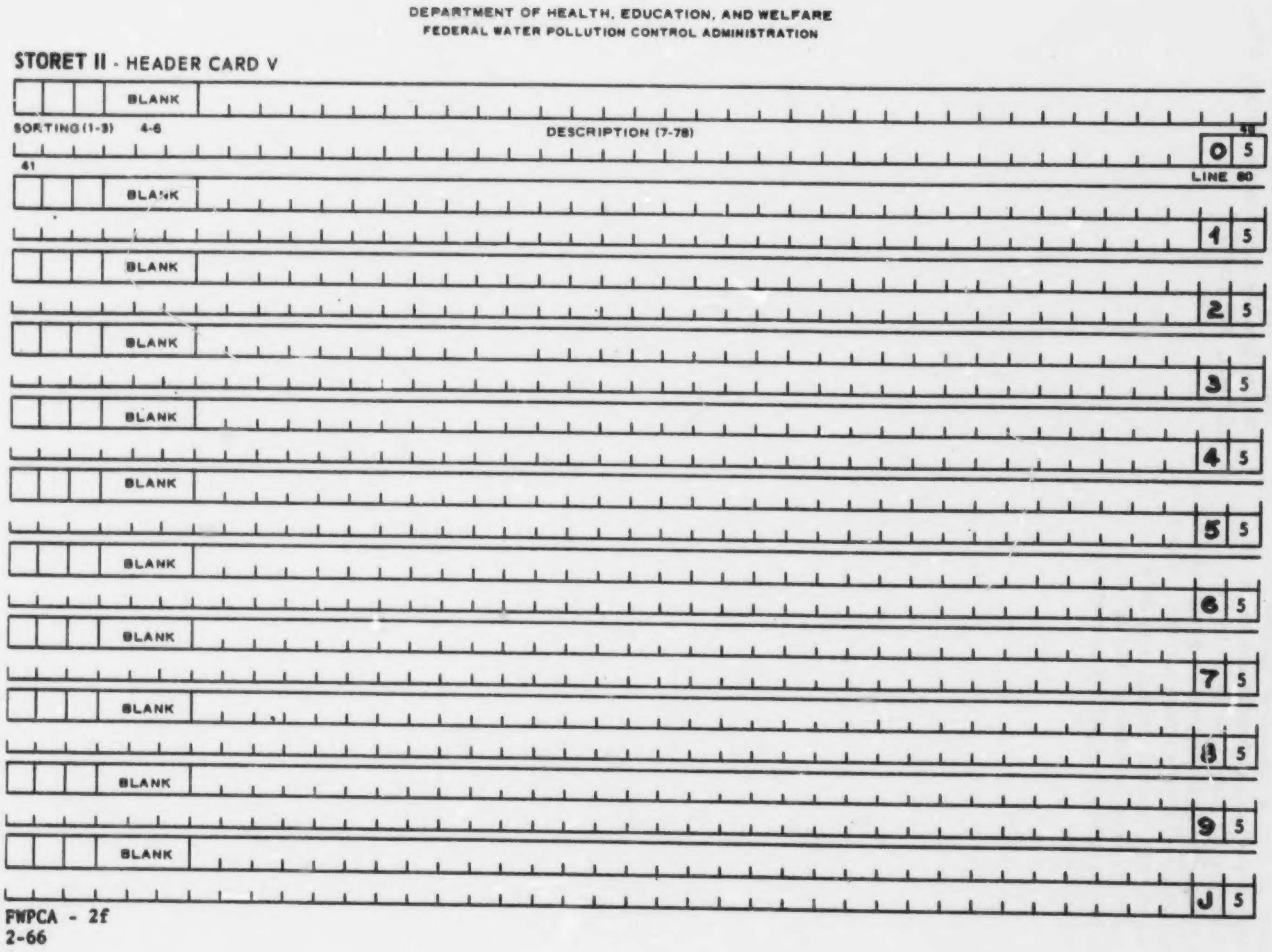
LOCATION NAME (20-51):

LOCATION NAME (CONT.):

REMARKS

4 80

FIGURE 6



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - HEADER CARD V

SORTING (1-3) 4-6 DESCRIPTION (7-78)

BLANK		41	LINE 80	0 5
BLANK				1 5
BLANK				2 5
BLANK				3 5
BLANK				4 5
BLANK				5 5
BLANK				6 5
BLANK				7 5
BLANK				8 5
BLANK				9 5
BLANK				J 5

FWPCA - 2f
2-66

FIGURE 7

IV SUMMARY

STORET provides numerous options for storage of station location information. Stations may be identified by up to four station numbers and located by geographical coordinates and/or hydrologic index. Card selection, use control coding, and deck set-up control the method of storage to reduce keypunching or satisfy operational requirements.

This outline was prepared by F.P. Nixon, Chief, Field Investigation Section, Edison Water Quality Laboratory, WQO, EPA, Edison, NJ 08817.

CHAPTER V

DATA STORAGE

	Outline Number
Storage of Water Quality Data	7

STORAGE OF WATER QUALITY DATA

I STORAGE FUNDAMENTALS

STORET also handles data related to the time, conditions, and results of water quality sampling. These data, which vary from time to time and place to place, are called parametric data.

A Types of Parametric Data

1 Sample information such as:

a Date and time of collection

b Sampling conditions such as method of collection, compositing procedure, etc.

2 Analytical results including type of analysis, value of results, and remarks.

B Associating Data with Locations and Methods

1 All parametric data are associated with prime or secondary station codes. Station numbers may be contained on Water Quality (Parametric) Data cards or preceding station location cards S, O, or I.

2 Analytical results (values) are associated with standard 5-digit STORET Parameter Codes. A complete list of STORET Parameter Codes is included in Appendix B. The Parameter Codes define the method by which analysis was performed and the form and units in which the results are stored.

3 Data records indicating the results of analysis of one or more parameters at a station are associated with a date-time combination. Only one data record (set of analytical results) can be stored under a given date-time-location-depth combination.

C Storage Options

1 Water quality data may be stored using Standard Input or Decimal Input procedures.

a Standard Input procedures employ a "fixed" or standard card format

b Decimal Input procedures employ a variable or "free form" card format

2 As in station location storage card selection and coding influence the storage process. However, alternative coding procedures are primarily intended to describe various types of data.

II STANDARD STORAGE

Water quality data may be stored using a standard Water Quality (Parametric) Data Card (Figure 1).

A Station Number, Columns 1-6

1 If there are no location (S, O, or I) cards between the agency (A) card and the data card(s), station number is determined as follows:

a If column 80 is coded with a 6 the characters in columns 1-3 are used as the station number. The characters in columns 4-6 will be stored as the sample depth. Depth is assumed to be measured in the units indicated on the preceding agency (A) card.

Analytical results for samples collected at several depths but at the same date, time, and location may be stored by this method. The coding of the data cards for stations 2 and 4 of the Typical STORET problem illustrates this procedure (Figures 51 to 53 in outline 5).

b If column 80 of the data card is coded with a blank the characters in columns 1-6 are used as the station number. Sample depth is not stored unless parameter 00003, Sample Depth is stored separately. Only one depth per date-time combination may be stored in this manner.

c The characters entered in columns 1-3 or 1-6 must correspond to previously stored prime or secondary station numbers. Coding should be left justified.

2 If leading location cards are provided, the station number will be extracted from the previous S, O, or I card. Blanks or a card sorting number may be coded columns 1-6.

B Date, Time, and Sampling Conditions, Columns 7-18 (or 7-30)

Conditions related to the collection of the sample are defined by the method of coding the date fields, columns 7-18.

1 A simple grab sample is stored by coding the date of collection in columns 7-12. The date must be coded in year, month, day order. Columns 13-18 are coded blank.

2 A grab sample with time identified is stored by coding the collection date in columns 7-12 and the time, based on a 24-hr military time system, in columns 13-16. Columns 17-18 are coded blank.

3 A composite sample with only dates identified is stored by coding the ending date of the composite in columns 7-12 and the beginning date in columns 13-18.

4 A composite sample with date, time, and sampling conditions identified is stored by coding columns 7-30 as indicated in Table 1. In this case coding of parameter values, etc. begins in column 31. When using this procedure columns 7-30 must be completed with appropriate coding.

5 A summary of coding for the four distinct sampling conditions is presented in Figure 2. Coding for stations 1, 2, 5, and 9 of the Typical STORET Problem illustrates the basic options.

C Parameter Codes, Columns 19-23, 31-35, etc.

The analyses performed are identified by STORET Parameter Codes entered in columns 19-23, 31-35, etc. A complete list of numerical parameter codes is contained in Appendix B.

1 Users should be certain that indicated parameter codes correspond to the actual analytical methods employed. The following parameter codes are similar but distinctly unique:

a 00070 Turbidity, Jackson Candle and 00075 Turbidity, Hellige

b 00335 COD, Low Level and 00340 COD, High Level

c 00400 pH, Standard Units and 00403 pH, Laboratory

2 Some parameters may be analyzed in several forms. This is particularly true of:

a Metals--reported in total, dissolved, or suspended forms.

b Alkalinity--reported in total, bicarbonate, or carbonate forms.

3 Other parameters may be reported from the laboratory in different units than required for storage. Such parameters include:

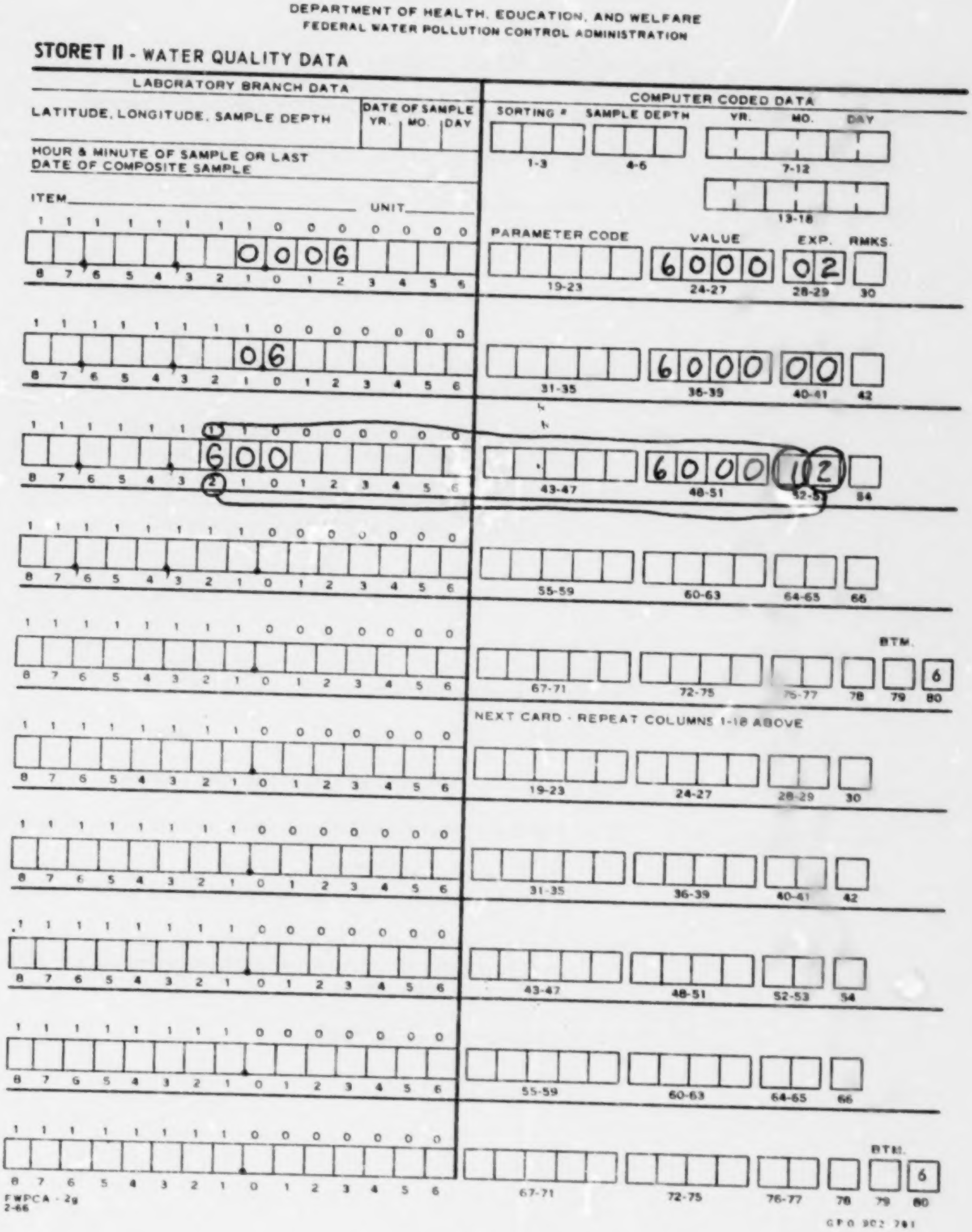
a Metals--reported from the lab in mg/l, stored as µg/l.

b Nutrients--reported and/or stored in elemental or ionic forms.

Unless the Parameter Code field is completed with the appropriate numerical the value of the corresponding analytical result is not stored.

D Parameter Value, Columns 24-27, 36-39, etc.

Four significant digits of the parameter value (magnitude of the analytical result) are coded in these fields. The first nonzero digit of the parameter value is placed in the far left column of this field regardless of the magnitude of the value. Parameter values of 0.006, 0.6, 60.0, etc. would be



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - WATER QUALITY DATA

LABORATORY BRANCH DATA

LATITUDE, LONGITUDE, SAMPLE DEPTH — DATE OF SAMPLE: YR. | MO. | DAY

HOUR & MINUTE OF SAMPLE OR LAST DATE OF COMPOSITE SAMPLE

ITEM________ UNIT________

Scale over each row of boxes: 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
Scale under each row of boxes: 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6

COMPUTER CODED DATA

SORTING # (1-3) — SAMPLE DEPTH (4-6) — YR. MO. DAY (7-12) — (13-18)

Laboratory branch data	Parameter code	Value	Exp.	Rmks.
0006	19-23	6000 24-27	02 28-29	30
06	31-35	6000 36-39	00 40-41	42
① 600 ②	43-47	6000 48-51	12 52-53	54
	55-59	60-63	64-65	66
	67-71	72-75	76-77	78 — 79 — BTM. 6 80

NEXT CARD - REPEAT COLUMNS 1-18 ABOVE

Laboratory branch data	Parameter code	Value	Exp.	Rmks.
	19-23	24-27	28-29	30
	31-35	36-39	40-41	42
	43-47	48-51	52-53	54
	55-59	60-63	64-65	66
	67-71	72-75	76-77	78 — 79 — BTM. 6 80

FWPCA - 2g
2-66

GPO 902-781

Figure 1

Table 1
COMPOSITE SAMPLE CODING

Columns 7 - 12	Ending year, month, and day of the composite sample.
Columns 13 - 16	Ending hour and minute of the composite sample.
Column 17	S - space composite T - time composite B - samples that are both space and time composites
Column 18	Blank - Composite samples for which a single set of analyses are made after the compositing process has been completed. A - Computed average value of several individual samples or average value of a continuous record. H - Maximum value of several individual samples or the maximum value of a continuous record. L - Minimum value of several individual samples or the minimum value of a continuous record.
Columns 19-23	Beginning date of a composite sample. The date will be shown with 5 digits by recording the last digit only of the year, the month number, and day number.
Column 24	Code with a "C" in all cases.
Columns 25-28	Beginning hour and minute of a composite sample.
Columns 29-30	C Δ- (Where Δ is a blank) for samples collected continuously. G Δ- Composite sample made up of individual grab samples where the number of grab samples is not to be reported. NN - (Where NN is a two-digit number such as 04 or 12) used to report the number of grab samples comprising a composite sample. ΔΔ - Columns can be left blank.

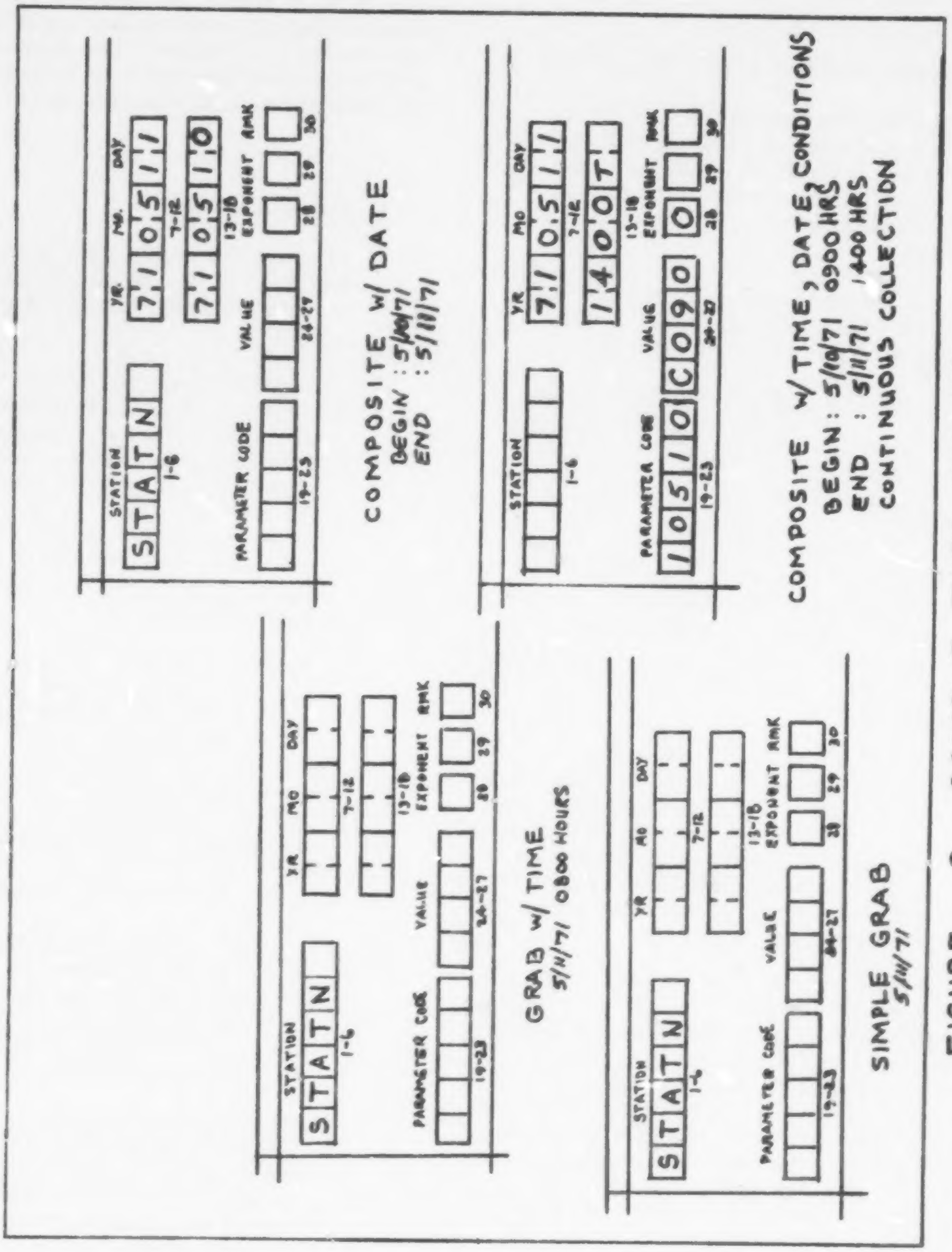


FIGURE 2 SAMPLE TYPE CODING

coded as 6000. Values containing more than 4 significant digits must be rounded off.

E Exponent, Columns 28-29, 40-41, etc.

At the conclusion of parameter coding the decimal point is assumed to lie just to the left of the first significant digit. Coding of columns 28-29, 40-41, etc. places the decimal point in the proper location.

1 The left hand column of the exponent field (Column 28, 40, etc.) controls the direction of movement.

a Code O -- decimal point maintains position or moves to the left

b Code I - decimal point moves to the right.

2 The code in the right hand column of the exponent field (Column 29, 41, etc.) controls the extent of movement. Codes O-9 may be used to maintain the assumed position or move the decimal point to the right or left.

3 The correct exponent codes for parameter values 0.006, 0.6, and 60.0 are 02, 00, and 12, respectively. As shown in Figure 1, the numbers recorded above and below the parameter values on the left hand side of the coding form may be used to determine the proper exponent codes.

F Remarks, Columns 30, 42, etc.

This field may be coded to display standard remark symbols adjacent to parameter values in the printout. The standard STORET remarks and their corresponding card codes and output symbols are shown in Table 2. The codes entered in columns 30, 42, etc. are not the same as the symbols displayed in the printout; only numerical card codes are accepted. If remarks are not required this field is coded blank.

III DECIMAL INPUT STORAGE

The Decimal Input (DIP) procedure allows keypunching of free form data cards directly from tables and reports. The intermediate step of transferring data from tables to standard coding forms is eliminated.

A DIP Fundamentals

1 Storage options

Two methods of DIP storage are available. The content and format of DIP card is dependent upon the method utilized.

a Single Station input is used when the same 30 or fewer parameters are measured at all stations but collection times, dates, and depths differ. The number of samples (or stations) which may be stored by this procedure is unlimited. A separate data card must be coded for each unique date-time-location-depth combination.

b Multiple Station input is used when the same parameters are measured at 20 or fewer stations at identical times and dates.

2 Control cards

Leading control cards are required to execute the DIP procedure. Information supplied on these cards includes:

a If single station input is used, a list of the STORET parameter codes to be associated with the values on the DIP data cards and the order in which the parameters are recorded for each sample or station.

b If multiple station input is used, a list of station numbers to be associated with values on the DIP cards and the order in which the station numbers are recorded on the data cards.

TABLE 2
REMARK CODES

Punch	Printed Output	Remarks
Blank	Blank	
0	J	value not accurate (estimated)
1	K	actual value is known to be less than value given
2	L	actual value is known to be greater than value given
3	M	presence of material verified but not quantitated
4	N	presumptive evidence of presence of material
5	O	
6	P	
7	Q	
8	R	
9	#	
2 8 *	$	
.	*	
@	"	
C	C	calculated

*Double punch 2 and 8 in same card column.

Additional remarks will have codes assigned to them as dictated by experience in the use of the system.

3 Data cards

a Format

The format of DIP data cards is highly flexible and allows keypunching of information almost exactly as it appears in typewritten or handwritten tables. There is no need to maintain constant field width and as many or as few cards as are needed to record all data for a sample (or array of stations) may be used. All fields on DIP cards are separated by simply punching a comma (,) at the end of the field.

b Number of cards

If more than one card is required to record all data for a given sample (or array of stations) the data are punched on the first card until the card is nearly filled. Remaining data are then punched on a second card.

c Missing data

If an analytical result is not available for a given parameter or station, the corresponding field is coded with a comma.

d Format for date-time fields

The date-time field will be coded as follows:

1) For grab samples with no time information--first two digits for year, second two digits for month, third two digits for day. The field will contain six numeric characters.

2) For grab samples with time indicated--first two digits for year, second two digits for month, third two digits for day, last four digits for time, based on a 24-hr military time system. The field will contain ten numeric characters.

3) For composite samples with beginning and ending dates indicated--first six digits for the beginning year, month, and day, second six digits for the ending year, month, and day. The field will contain twelve numeric characters. It is not possible to store sampling condition information by the DIP procedure.

The date-time field is concluded with a comma.

e Format for data (parameter value) fields

Data fields are designed to contain either fixed point or floating point numerical notation. The general expression for the format of the data field is:

.XXXXXXXXXXX ESPP

where

1) The designation .XXXXXXXXXXX represents a fixed point number or mantissa of a floating point number which may include 1-11 numerical digits plus a decimal point. The decimal point may occur in any position or be omitted. When floating point notation is used the decimal point is assumed to be immediately to the left of the first numerical digit or the position indicated.

2) The blank constitutes and exponent separator. Its use is optional.

3) The designation S indicates the sign of the exponent. It may be coded plus (+), minus (-), or blank. A plus code will cause the decimal point to be moved to the right, a minus code will cause it to be moved to the left, and a blank code will maintain the indicated position. Use of the exponent sign is optional. If a code is not provided the exponent is assumed to be positive.

4) The designation PP represents the value of the exponent. Two numerical digits must be coded if floating point notation is used. This code controls the extent of movement of the decimal point from the indicated position.

Correct codes for the numbers 5, 7.5, 0.1, and 98,500 are 5, 7.5, 0.1 or 1.0E-01, and 98500 or 9.85E04 or 9.85 E04 or 9.85E+04, respectively.

Data fields are separated by commas. If data is not available for a parameter or station, the corresponding field is coded with a comma. Thus a blank field between fields for which values are available is coded as follows: XX,,XX.XE PP

B Single Station Input

Basic card formats for single station DIP input are shown in Figures 3 to 6. Typical data and corresponding coding are presented in Tables 3 and 5.

1 Control card P

a The first three columns of any DIP control card must be coded with a P enclosed in quotes ('P'). Quotes are punched with a 5-8 overpunch. This field is followed by a comma.

b Column 5 is coded with a blank.

c If sample depth will be indicated on following data cards column 6 should be coded with a D. Otherwise, code column 6 with a blank.

d Columns 7-76 may be coded with 1-14 numerical STORET parameter codes. Parameter codes should not be separated by commas or blanks.

e If more than 14 parameter codes are required, column 80 should be coded with a C. This code will cause columns 77-79 to be ignored. Beginning in column 1, the next card may be coded with 1-16 five-character numerical parameter codes. Using two control cards, values may be stored for 30 parameters.

2 Data card (s)

Any number of data card may follow the control (P) card (s). The length and arrangement of fields on the Data (D) cards is variable and depends upon storage requirements, the order in which parameters were listed on the control (P) card (s), and the manner in which parameter values are recorded.

Fields are arranged and coded in the following order:

a Sequence number (optional)

If desired, the leading field of the data (D) card may contain a sequence or card sorting number. The sequence number is composed of a dollar sign ($ -- 11, 3, 8 overpunch) followed by numerical digits. The entire number including the dollar sign must be enclosed in quotes and followed by a comma. A sequence number is normally used if values are stored for more than 14 parameters.

b Card type field

Code this field with a D enclosed by quotes ('D'). If sequence numbers are not used, this constitutes the leading field. Conclude this field with a comma.

c Station code

The next field must be coded with a 1-15 digit prime or secondary alpha-numeric station number enclosed in quotes ('XXXXXXXXXXXXXXX'). If sequence numbers are not used this field begins in column 5.

d Date-time field

This field must be coded with the year, month, day, and time of sample collection according to standard format (See 3 d). Since embedded blanks are not permitted, leading zeros may be required in the date and time fields. Time indication is optional; if no time is indicated this field will contain only 6 characters. This field is not enclosed in quotes and is concluded with a comma.

e Sample depth (optional)

If a D was coded in column 6 of the preceeding control (P) card, sample depth may be coded in this field.

Depth units are assumed to be those indicated on the previous agency (A) card. This field is concluded by a comma.

f Parameter values

The remainder of the card may be coded with parameter values (separated by commas) in the order specified on the previous control card. Fixed point (XX,XX.XX,) or floating point (XXXEPP,XX.XEPP,) notation may be used. If a remark is to be associated with a value its STORET printout symbol should be coded to the left of the value (K15, K3.7E04,). If a value is omitted the corresponding field is coded with a comma (XX,XX.XEPP).

C Multiple Station Input

Basic card formats for multiple station DIP input are presented in Figures 7 to 8. Typical data and corresponding coding are presented in Tables 6 and 8.

1 Control card P

a The first three columns of this card are coded with a P enclosed in quotes ('P'). The field is concluded with a comma.

b The remainder of the card is coded with alpha-numeric station numbers for which parameter values will be stored. Prime or secondary station numbers are coded (left justified) in five 15-character fields beginning in columns 5, 20, 35, 50, and 65. Unused columns in each field may be left blank. Fields (and coded station numbers) are not separated by commas.

c If more than 5 station codes are required, column 80 is coded with a C and the array of station codes is continued on the next card beginning in columns 5, 20, etc. Columns 1-5 of the second card are coded blank.

2 Data (D) cards

a Sequence number (optional)

If desired, a sequence number may be coded in this field in accordance with the same procedure used in single station input (See III B 2 a).

b Card type field

Code this field with 'D'. If sequence numbers are not used this constitutes the leading field.

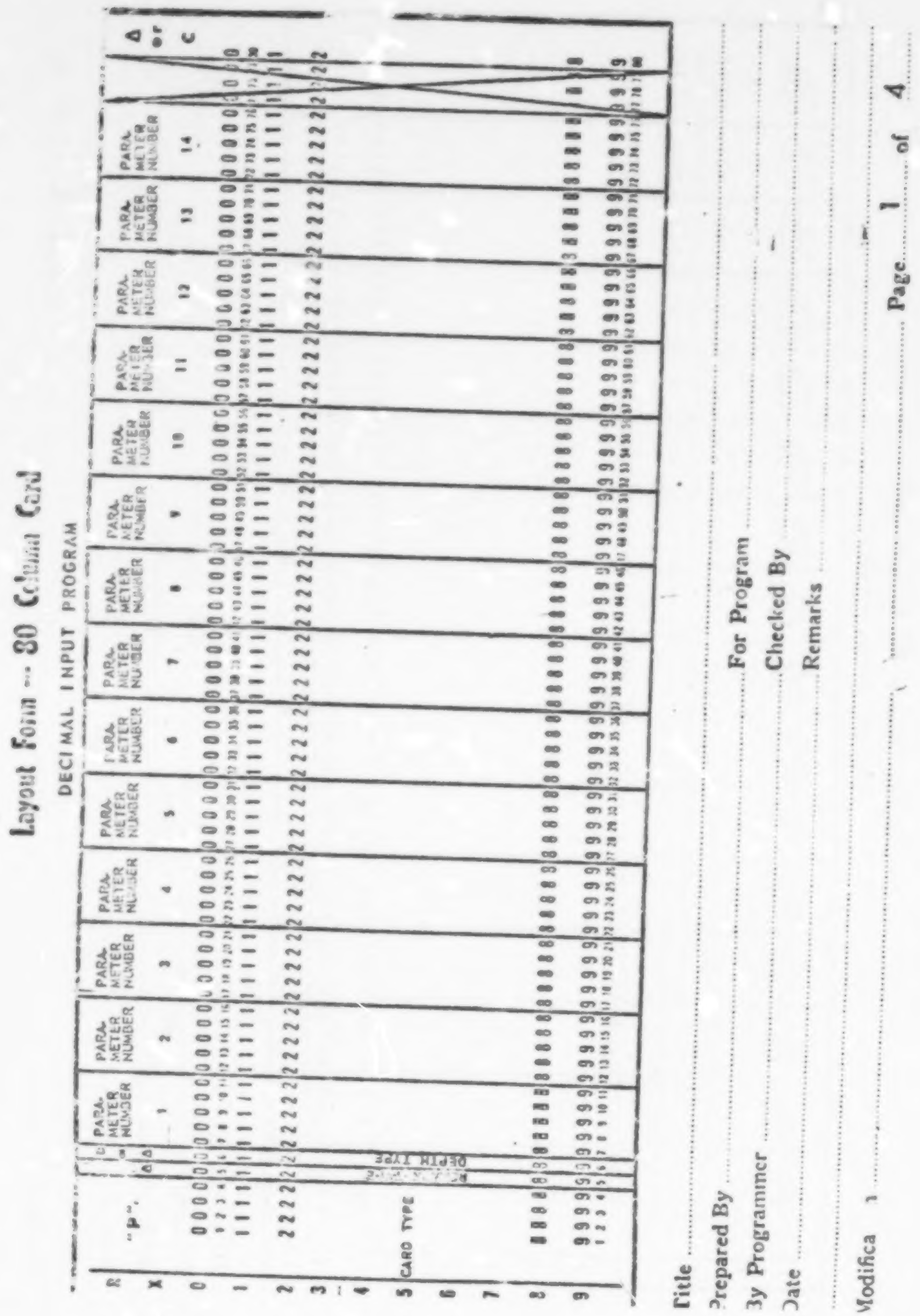
c The next field contains a 5-digit numerical STORET parameter code to be associated with parameter values coded on this and following data cards for the same date, time, and stations. The parameter code is not enclosed in quotes and is followed by a field separation comma.

d Date-time field

This field must be coded with the year, month, day, and time at which samples were collected at all the stations indicated on the previous control (P) card (s). Coding must be completed in accordance with standard format (See II A 3 d). The field will include 6, 10, or 12 numerical characters.

e Parameter values

The remainder of the card may be coded with fixed or floating point parameter values in the station-by-station order specified on the previous control (P) card (s). If a remark is required the appropriate STORET printout symbol is coded to the left of the corresponding parameter value. Parameter values (including remark symbols) are separated by commas. If a value is not available for a station, the corresponding field is coded with a comma.



Layout Form -- 80 Column Card

DECIMAL INPUT PROGRAM

Title

Prepared By .... For Program

By Programmer .... Checked By

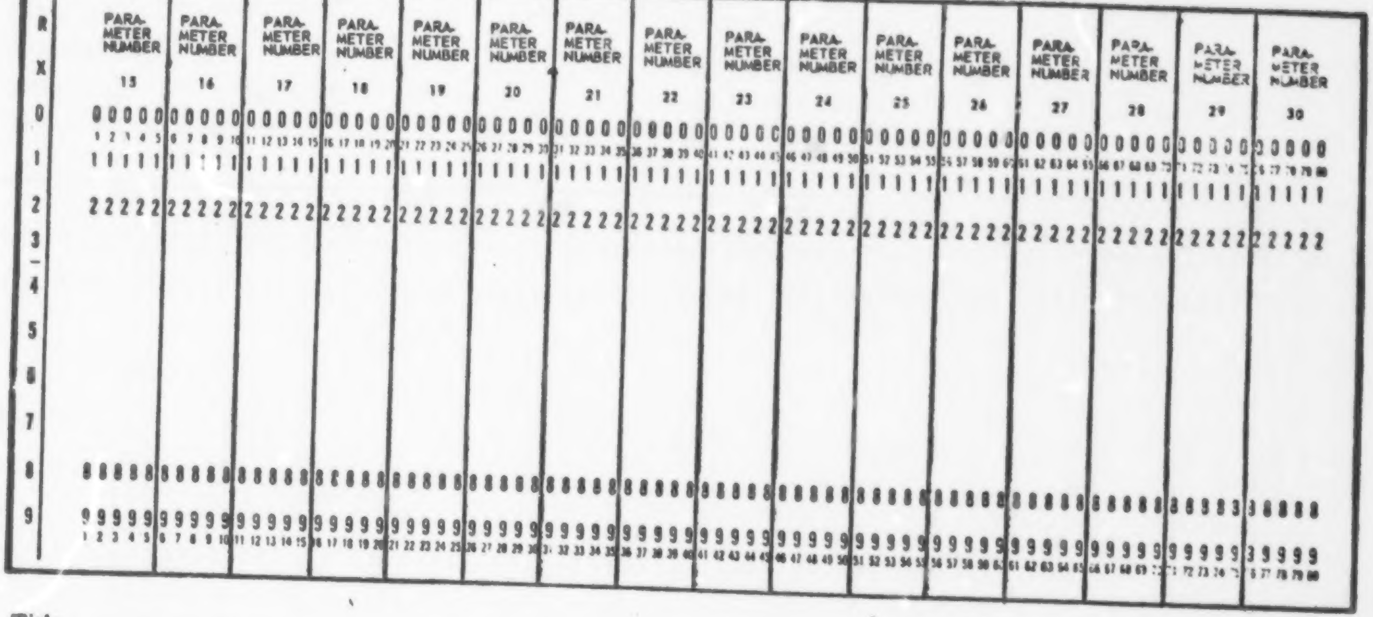
Date .... Remarks

Modifica 1 .... Page 1 of 4

FIGURE 3

Layout Form — 80 Column Card

DECIMAL INPUT PROGRAM



Title ....

Prepared By .... For Program ....

By Programmer .... Checked By ....

Date .... Remarks ....

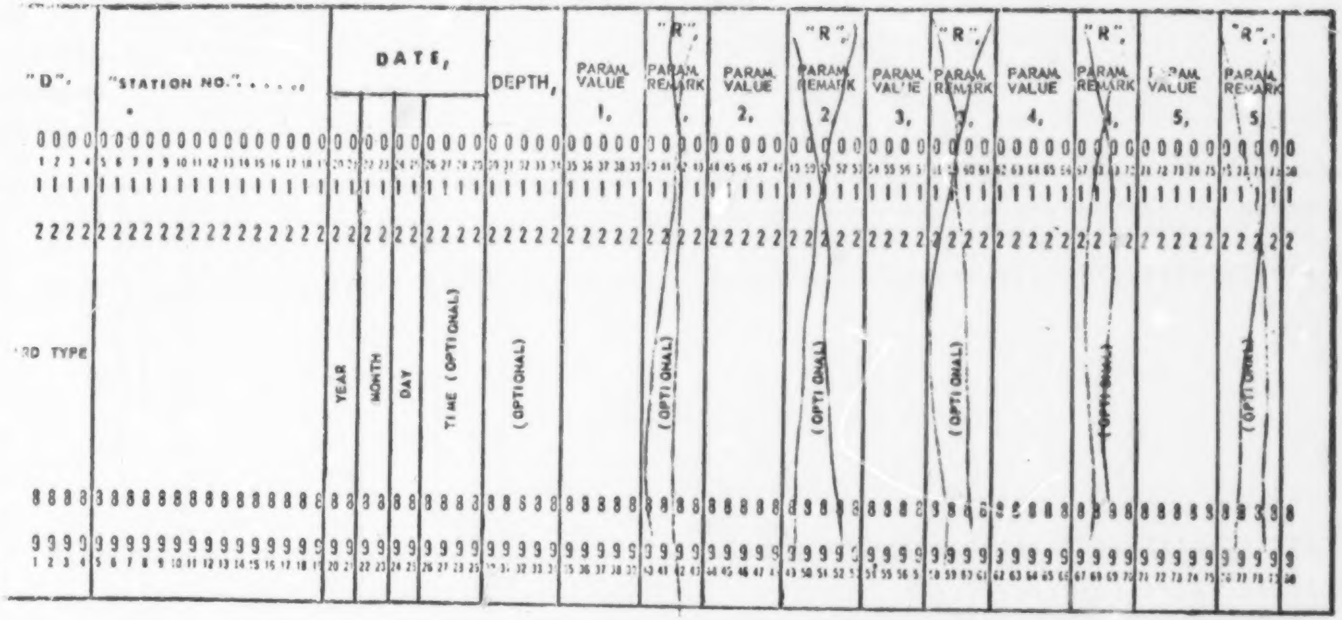
....

Modification .... Page 2 of 4

FIGURE 4

Layout Form — 80 Column Card

DECIMAL INPUT PROGRAM



le ....

ared By .... For Program ....

Programmer .... Checked By ....

ic .... Remarks ....

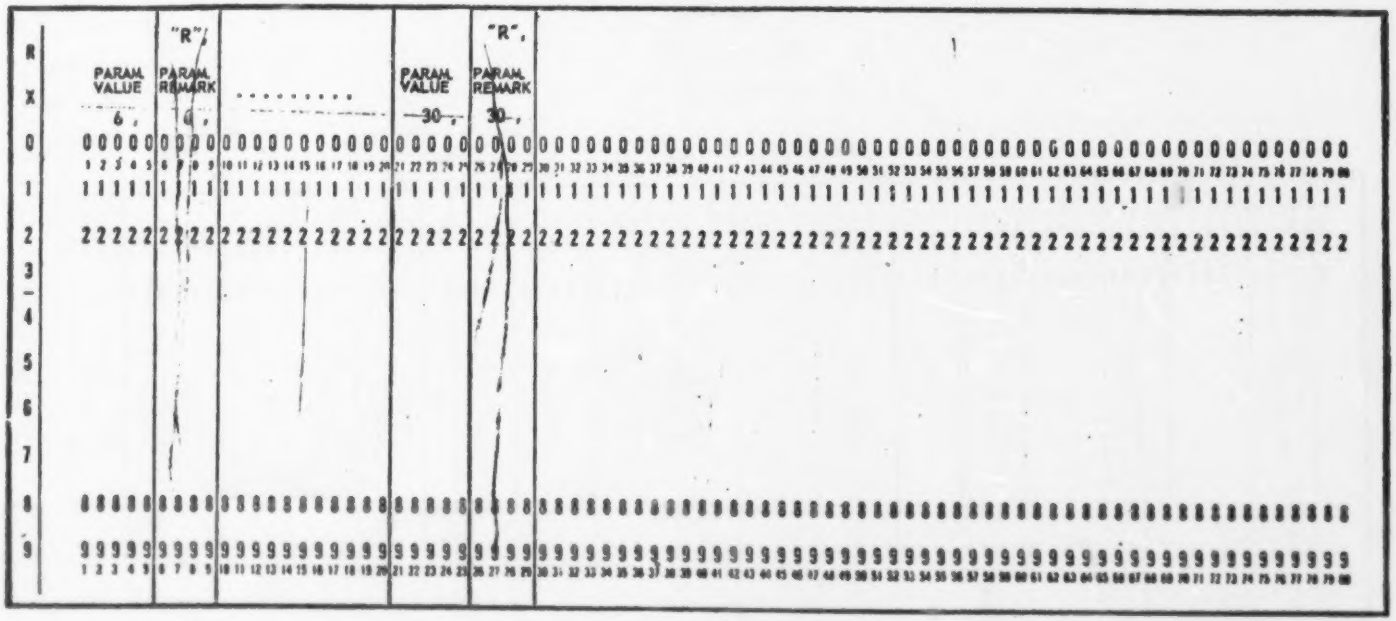
....

lificat : .... Page 3 of 4

FIGURE 5

Layout Form — 80 Column Card

DECIMAL INPUT PROGRAM



Title ....

Prepared By .... For Program ....

By Programmer .... Checked By ....

Date .... Remarks ....

....

Modification .... Page 4 of 4

FIGURE 6

EXAMPLE TYPEWRITTEN DATA REPORTS

1.

STATION NUMBER	DATE	TIME	DEPTH	COND	TEMP	PH	ALK	COLIFORMS
205090	1/7/68	9:00	20	210	6.2	7.4	110	43,000,000
205090	3/8/68	----	35	---	10.1	7.6	---	10,000
205090	5/20/68	1300	--	250	14.8	---	98	3.7E04

2.

STATION NUMBER	DATE	TIME	CL	TURB	HARD	DO	SO4*	NO3
108130	5/3/68	10:15	<15[1]	<250	120	9.8	25	<.85
108130	5/21/68	---	>8[2]	---	>130	8.7	20	0.92

3.

STATION NUMBER	DATE	TIME	ACID	ALK	BOD	CL	DO	HARD	IRON	OIL	PO4	SO4	TURB	TEMP	PH	CO2	N	NA
M350J1	4/1/68	4p.m.[3]	8	105	2.4	17	9.8	110	15.02	95	.41	32	150	8.1	7.5	10	20.9	135.1
M350J1	3/6/68	---	6	100	---	15	---	105	-----	50	---	--	145	8	---	8.	--	----

* Values shown for SO4 are reported as not accurate.

Notes:

1. STORET remark is K
2. STORET remark is L
3. Hours in STORET are recorded 0000 to 2400; therefore, 4 p.m. = 1600.

TABLE 3

TABLE 4

DIP CARDS FOR PRECEDING DATA

1st CARD:

'P', D00095000100040000041031505

2nd CARD:

'D', '205090', 6801070900, 20, 210, 6.2, 7.4, 110, 43000000,

3rd CARD:

'D', '205090', 680308, 35, , 10.1, 7.6, , 10000,

4th CARD:

'D', '205090', 6805201300, 99999, 250, 14.8, , 98, 3.7E04,

5th CARD:

'P', 00940000750090000300009450062O

6th CARD:

'D', '108130', 6805031015, K15, K250, 120, 9.8, J25, K.85,

7th CARD:

'D', '108130', 680521, L8, , L130, 8.7, J20, .92,

8th CARD:

'P', 00435004100030500940003000090001045005500065000945000750001000400004O5 C

TABLE 5

DIP CARDS FOR PRECEDING DATA

9th CARD:

0063000930

10th CARD:

'$0010', 'D', 'M350J1', 6804011600, 8, 105, 2.4, 17, 9.8, 110, 15.02, 95, .41, 32, 150, 8.1, 7.5,

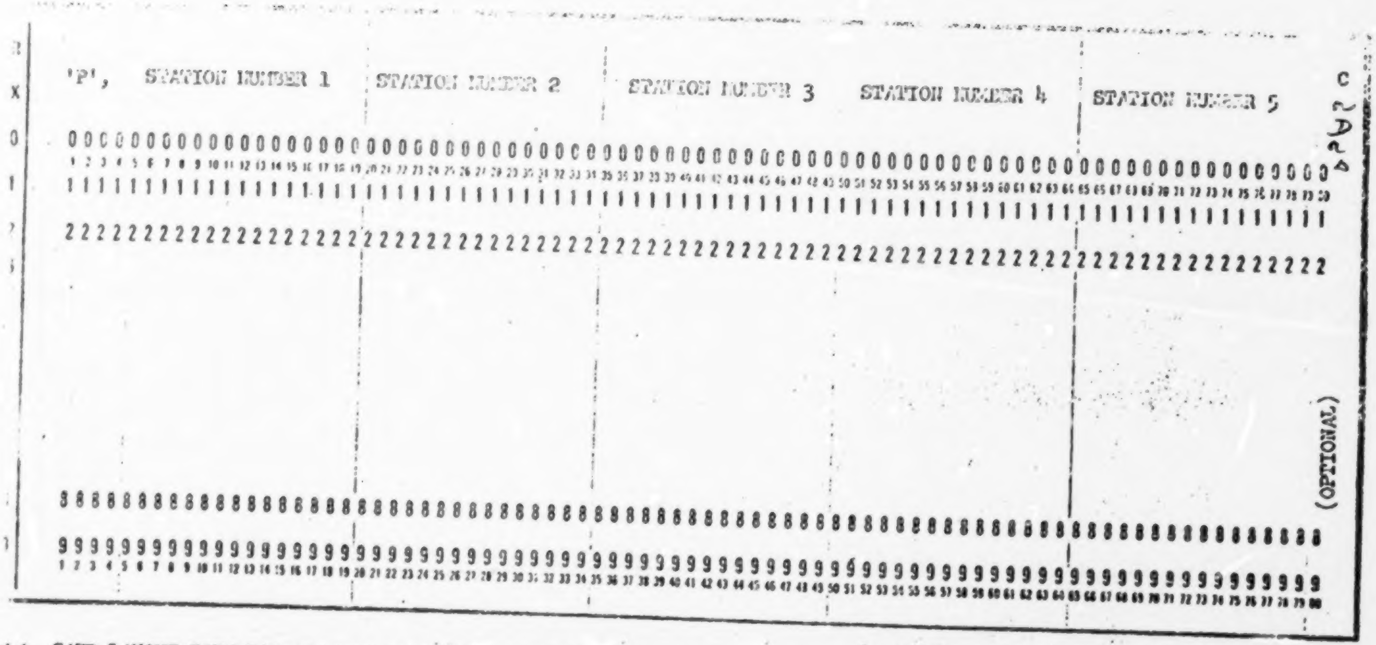
11th CARD:

'$0020', 10, 20.9, 135.1,

12th CARD:

'$0030', 'D', 'M350J1', 680306, 6, 100, , 15, , 105, , 50, , , 145, 8, , 8., , ,

Reproduced from best available copy.



itle CARD LAYOUT FORM FOR STATION CARD (S) OF DECIMAL INPUT PROGRAM FOR MULTIPLE STATIONS

repared By .... For Program ....

Programmer JOYCE BOYD .... Checked By ....

te APRIL, 1969 .... Remarks To indicate a continuation of station numbers

unch a "C" in column 80.

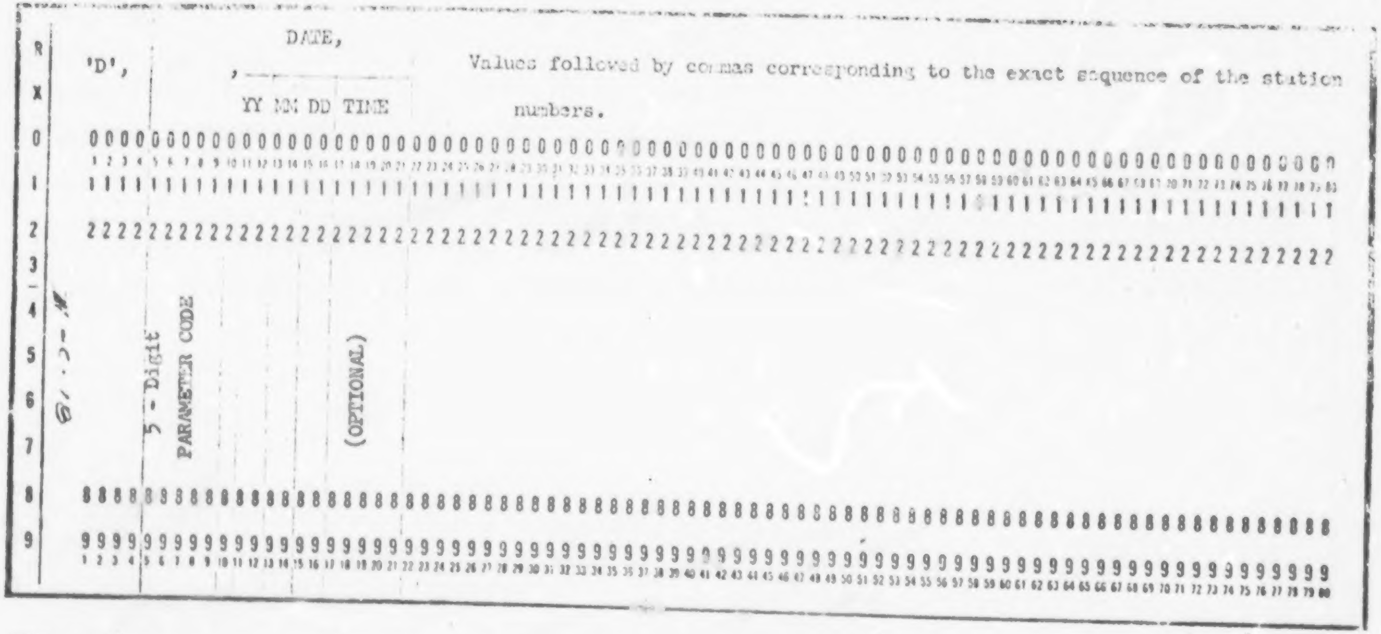
dification ....

Page.................of.................

FIGURE 7

DECIMAL INPUT PROGRAM FOR MULTIPLE STATIONS

Layout Form — 80 Column Card



'D',

DATE,

YY MM DD TIME

Values followed by commas corresponding to the exact sequence of the station numbers.

5 - Digit PARAMETER CODE

(OPTIONAL)

W-C-18

R
X
0
1
2
3
4
5
6
7
8
9

Title . CARD LAYOUT FORM FOR VALUE CARDS OF DECIMAL INPUT PROGRAM FOR MULTIPLE STATIONS

Prepared By .... For Program ....

By Programmer JOYCE BOYD .... Checked By ....

Date APRIL, 1969 .... Remarks ....

Modification .... Page .... of ....

FIGURE 8

TABLE 6
1968 SAMPLE ANALYSIS RESULTS
St. Marys River

Range SMU 5.6

Station:	M075 1000	M076 1300	M077 1600	M078 1900	M079 2200
Date					
	Parameter: Nitrate mg/l				
7-17	.2	.2	.2	.2	.2
7-18	.1	.1	.2	.2	.2
7-19	.2	.2	.2	.2	.2
7-20	.2	.1	.2	.1	.1
7-21	.2	.2	.2	.1	.2
Average	.2	.2	.2	.2	.2
	Parameter: DO mg/l				
7-17	10.8	10.9	10.9	11.0	11.1
7-18	10.8	10.8	11.2	11.2	11.2
7-19	10.5	10.9	11.3	10.9	11.0
7-20	10.6	10.8	10.9	10.6	10.8
7-21	10.3	10.6	10.9	10.7	10.8
Average	10.6	10.8	11.0	10.9	11.0
	Parameter: Total PO_4^- mg/l				
7-17	.01	.01	<.01	<.01	.01
7-18	<.01	<.01	<.01	<.01	.02
7-19	.04	.02	.43	.19	.33
7-20	.03	.02	.05	.02	.02
7-21	-	-	-	-	-
Average	.02	.02	.13	.06	.10

TABLE 7

DIP CARDS FOR PRECEDING DATA

```
'P'       75        M076      M077      M078      M079

'D', 00620, 680717, .2, .2, .2, .2,
'D', 00620, 680718, .1, .1, .2, .2, .2,
'D', 00620, 680719, .2, .2, .2, .1, .1,
'D', 00620, 680720, .2, .1, .2, .1, .2,
'D', 00620, 680721, .2, .2, .2, .2, .2,
'D', 00300, 680717, 10.8, 10.9, 10.9, 11, 11.1,
'D', 00300, 680718, 10.8, 10.8, 11.2, 11.2, 11.2,
'D', 00300, 680719, 10.5, 10.9, 11.3, 10.9, 11.0,
'D', 00300, 680720, 10.6, 10.8, 10.9, 10.6, 10.8,
'D', 00300, 680721, 10.3, 10.6, 10.9, 10.7, 10.8,
'D', 00650, 680717, .01, .01, K.01, K.01, .01,
'D',  00650, 680718, K.01, K.01, K.01, K.01, .02,
'D', 00650, 680719, .04, .02, .43, .19, .33,
'D', 00650, 680720, .03, .02, .05, .02, .02,
'P', P44            P45       P46       P48       EXT1   C
   EXT2
'$1000',  'D', 00010, 680604, 12.0, , 11, 10.5, , ,
'$1001',  'D', 00010, 680625, 14.5, 14, 14.0, , 14.0, 14.5,
'$1002',  'D', 00010, 680820, 23, 22.5, 22.0, , 22,
'$1003',  22.5,
```

TABLE 8

DIP CARDS FOR PRECEDING DATA

```
'$1004',  'D', 00010, 681104, 10, 10, 10, , 10, 10,
'$1005',  'D', 00940, 680604, 680604, 12, , 8, 7, , ,
'$1006',  'D', 00940, 680625, 8, 5, 5, , 5, 5,
'$1007',  'D', 00940, 680820, 8, 6, 6, , 12, 29,
'$1008',  'D', 00940, 681104, 7, 6, 6, , 9, 18,
'$1009',  'D' , 32730, 680604, K1, , K1, K1, , ,
'$1010',  'D', 32730, 680625, K1, K1, K1, , K1, K1,
'$1011',  'D', 32730, 680820, 3, 3, 3, , 2, 5,
'$1012',  'D', 32730, 681104, 3, 2, 3, , 3, 6,
```

IV SUMMARY

Water quality data may be stored in STORET by Standard or Decimal Input Procedures. Standard storage procedures utilize fixed field Water Quality (Parametric) Data Cards. Decimal Input Procedures utilize free form data cards having flexible format. All parametric data are associated with prime and/or secondary station numbers.

Only one set of analytical results may be stored under a single date-time-location-depth combination.

This outline was prepared by F.P. Nixon, Chief, Field Investigation Section, Edison Water Quality Laboratory, Water Quality Office, EPA, Edison, NJ 08817.

CHAPTER VI

CHANGING AND DELETING STATION AND WATER QUALITY DATA

	Outline Number
Data Modification and Deletion	8

DATA MODIFICATION AND DELETION

Any truly comprehensive system for storing and retrieving data must be able to delete, update, or change data. STORET includes specific options to change or delete (1) unlocking date, (2) station type, (3) secondary station numbers, (4) station location information and descriptive paragraph, and (5) values for one or more parameters on specified date(s). Other data (such as agency code and prime station number) may be altered only by deleting and restoring the entire associated record of station and water quality data.

I CHANGING UNLOCKING DATE AND STATION TYPE (AGENCY CARD)

To change unlocking date or station type an Agency (A) card is required with the control code field (columns 78-79) coded as follows:

A CD changes the unlocking date for the station numbers coded on following S, O, or 1 cards to the new date coded in columns 74-77.

B CT changes the station type for station numbers coded on following S, O, or 1 cards to the new type coded in columns 66-73.

II STATION LOCATION DATA

To change or delete station location data, a Station (S) card is required with the use control field (columns 78-79) coded as follows:

A DS causes a deletion of all station location and parametric data for a station.

B DD causes a deletion of all water quality (parametric) data for a station. Station location data is not affected.

C CC to do the following:

1 Delete all old secondary station numbers.

2 Store new secondary station numbers on the Station (S) card.

3 For this use location information on new cards is merged with and substituted for former station information.

III WATER QUALITY (PARAMETRIC) DATA

Parametric data may be changed or deleted by any one or a combination of the following methods:

A To delete all data for a given sample code columns 1-18 of a data card with station, depth, date, and/or time information and columns 19-21 with DEL.

1 Composite samples (with or without sampling procedure identified) will also be deleted by this procedure. Beginning and ending dates must be coded in columns 13-18 and 7-12, respectively.

2 If column 80 is coded with a 6, characters in columns 1-3 will be recognized as the station number and characters in columns 4-6, as the sample depth.

3 If column 80 is coded blank, the characters in columns 1-6 will be recognized as the station number.

B To delete an individual parameter for a given sample, the data card is coded as if data were being stored except that a D is punched in the left hand column of the value field which corresponds to the parameter to be deleted. Numerical values in other fields of the same card are treated as valid data and stored. Replacement values for the deleted parameter may be coded on the same or subsequent data cards.

C To replace a large amount of data for a sample, code

1 Column 79 of a data card with a C and column 80 with a 6 if columns 1-3 represent station number and columns 4-6 represent depth.

2 Column 80 of a data card with a C if columns 1-6 represent the station number. Data for all parameters on this card and also data for all parameters on

subsequent cards which correspond to the same sample will be stored in place of or merged with old data.

IV TYPICAL STORET PROBLEM

Deletion and modification procedures are illustrated by the following changes to the Typical STORET Problem. Figures 1 to 13 show the correct card selection and coding to perform the necessary modifications.

A Change distance of Station 1 on Alpha Creek to 6.23 miles from Goose Bay.

B Change the latitude of Station 2 to 43°23' 10" and the station depth to 88 ft.

C Change the longitude of Station 3 to 62°32'06".

D Update the name of Unknown Creek to Pine Creek. This requires a change of heading information for station 7.

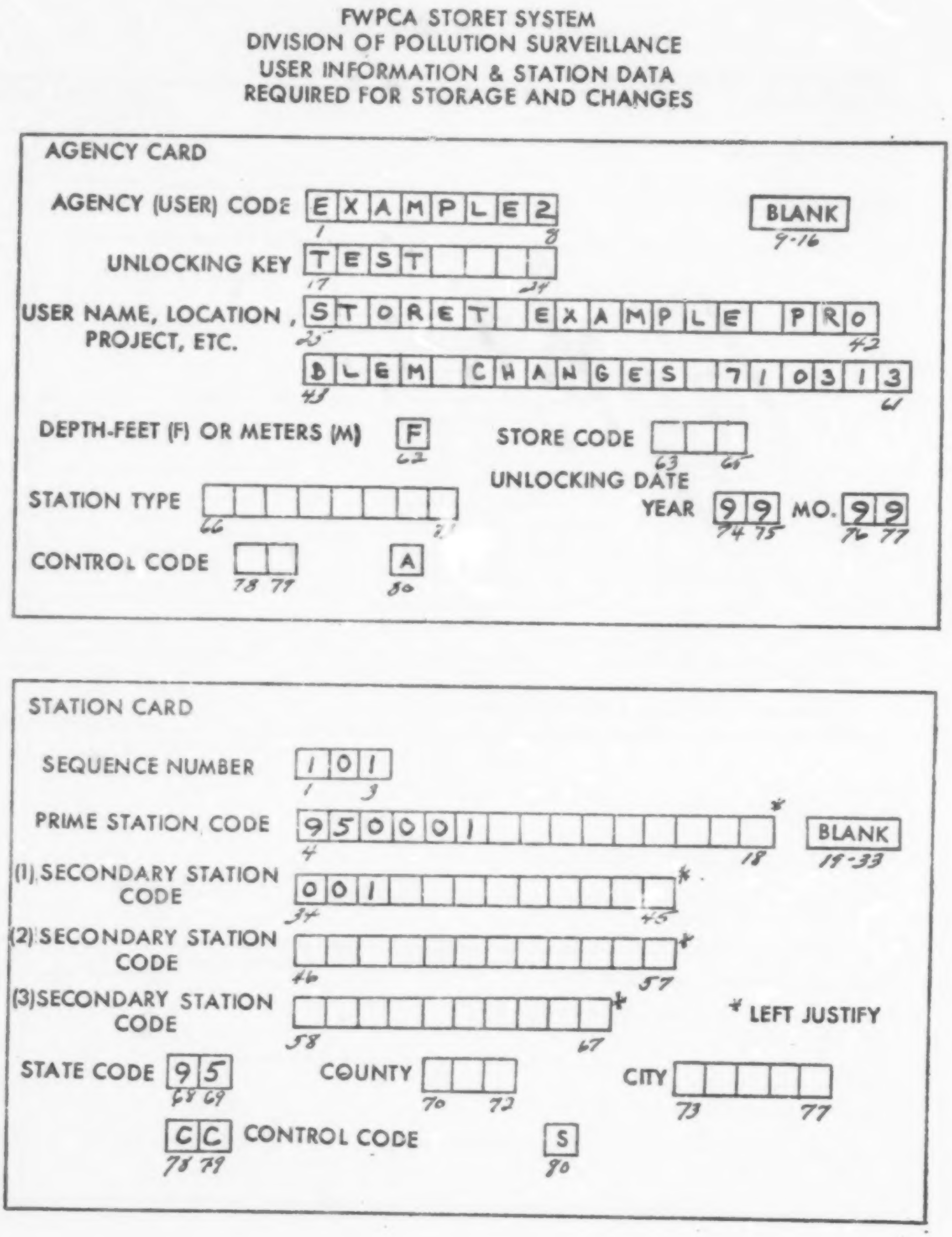
E Delete all data (station and parametric) for Station 5.

F Change the latitude of Station 13 to 43°10'10".

G Delete all data collected at Station 4 at the surface on 6/11/19.

H Change the alkalinity value observed at Station 1 on 6/11/19 to 140 mg/l.

This outline was prepared by F. P. Nixon, Chief, Field Investigation Section, Edison Water Quality Laboratory, Water Quality Office, EPA, Edison, NJ 08817



FWPCA STORET SYSTEM
DIVISION OF POLLUTION SURVEILLANCE
USER INFORMATION & STATION DATA
REQUIRED FOR STORAGE AND CHANGES

AGENCY CARD

AGENCY (USER) CODE EXAMPLE2 (1–8) BLANK 9-16

UNLOCKING KEY TEST (17–24)

USER NAME, LOCATION, PROJECT, ETC. STORET EXAMPLE PRO (25–42)

BLEM CHANGES 710313 (43–61)

DEPTH-FEET (F) OR METERS (M) F (62)

STORE CODE (63–65)

STATION TYPE (66–73)

UNLOCKING DATE YEAR 99 (74 75) MO. 99 (76 77)

CONTROL CODE (78 79) A (80)

STATION CARD

SEQUENCE NUMBER 101 (1–3)

PRIME STATION CODE 950001 (4–18) * BLANK 19-33

(1) SECONDARY STATION CODE 001 (34–45) *

(2) SECONDARY STATION CODE (46–57) *

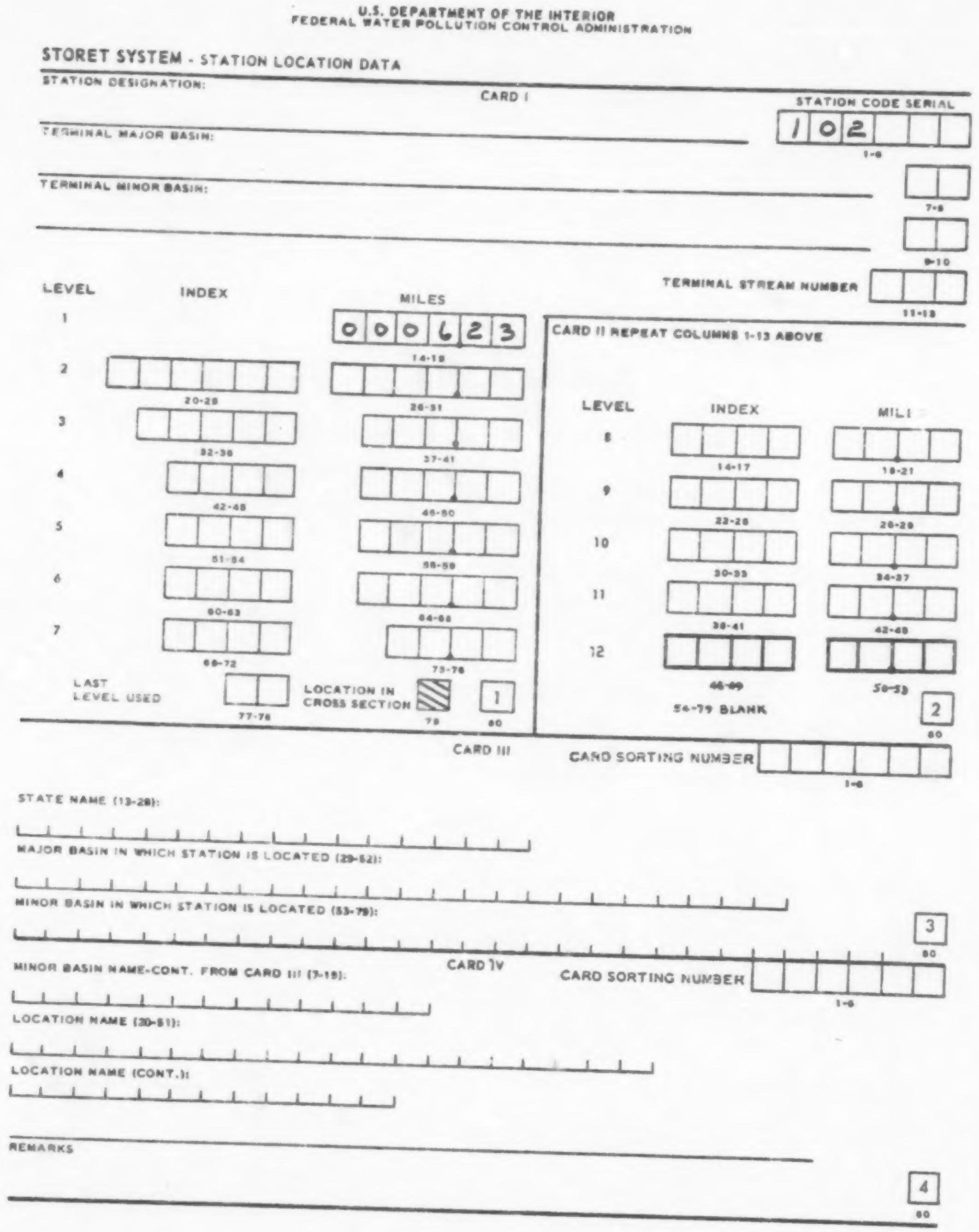
(3) SECONDARY STATION CODE (58–67) *

* LEFT JUSTIFY

STATE CODE 95 (68 69) COUNTY (70–72) CITY (73–77)

CC (78 79) CONTROL CODE S (80)

Figure 1



U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET SYSTEM - STATION LOCATION DATA

STATION DESIGNATION:

CARD I

STATION CODE SERIAL 1 0 2 (1-6)

TERMINAL MAJOR BASIN: (7-8)

TERMINAL MINOR BASIN: (9-10)

TERMINAL STREAM NUMBER (11-13)

LEVEL	INDEX	MILES
1		0 0 0 6 2 3 (14-19)
2	(20-25)	(26-31)
3	(32-36)	(37-41)
4	(42-45)	(46-50)
5	(51-54)	(55-59)
6	(60-63)	(64-68)
7	(69-72)	(73-76)

LAST LEVEL USED (77-78)

LOCATION IN CROSS SECTION ▨ (79)

1 (80)

CARD II REPEAT COLUMNS 1-13 ABOVE

LEVEL	INDEX	MILES
8	(14-17)	(18-21)
9	(22-25)	(26-29)
10	(30-33)	(34-37)
11	(38-41)	(42-45)
12	(46-49)	(50-53)

54-79 BLANK

2 (80)

CARD III

CARD SORTING NUMBER (1-6)

STATE NAME (13-28):

MAJOR BASIN IN WHICH STATION IS LOCATED (29-52):

MINOR BASIN IN WHICH STATION IS LOCATED (53-79):

3 (80)

CARD IV

CARD SORTING NUMBER (1-6)

MINOR BASIN NAME-CONT. FROM CARD III (7-19):

LOCATION NAME (20-51):

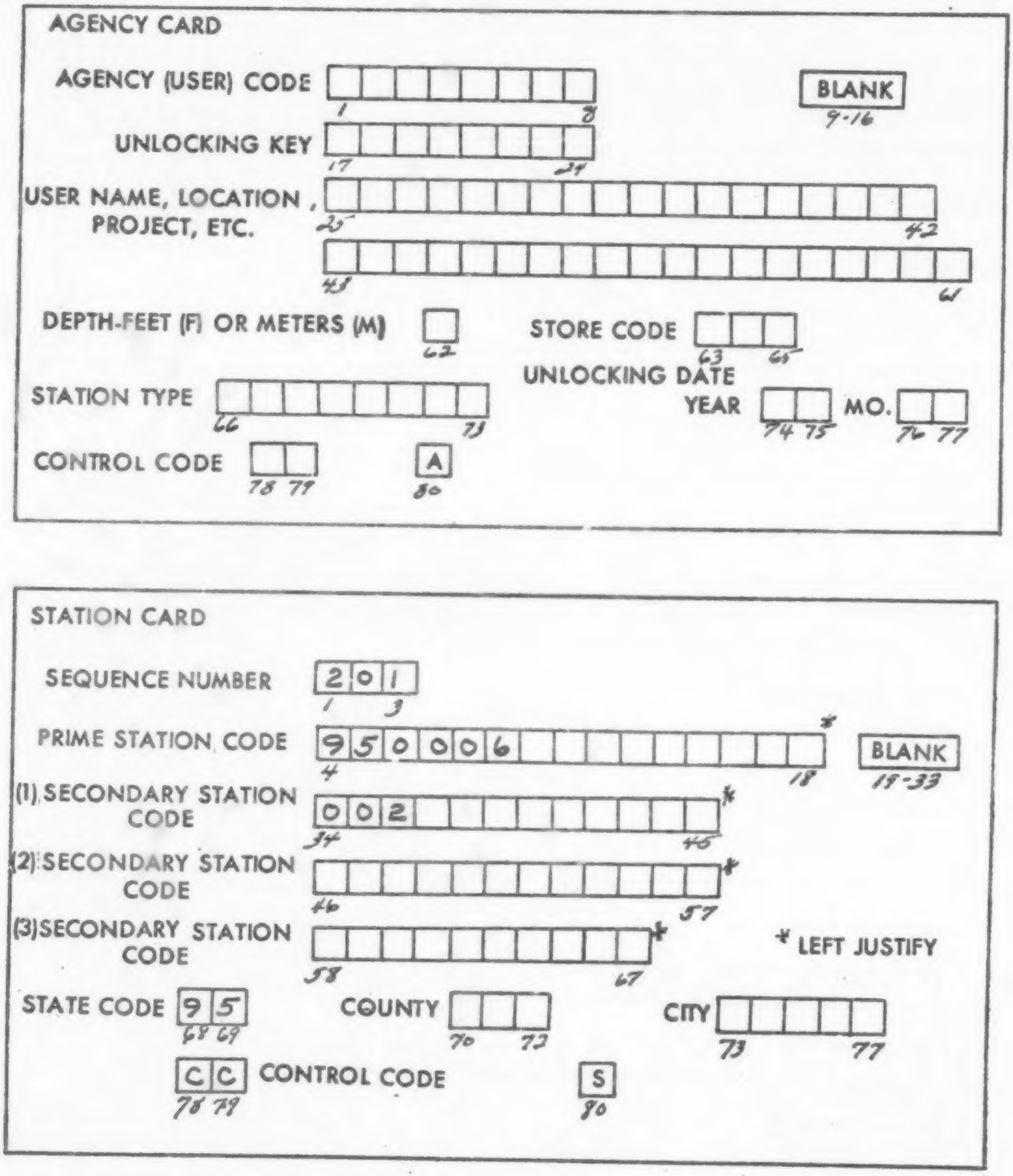
LOCATION NAME (CONT.):

REMARKS

4 (80)

Figure 2

FWPCA STORET SYSTEM
DIVISION OF POLLUTION SURVEILLANCE
USER INFORMATION & STATION DATA
REQUIRED FOR STORAGE AND CHANGES



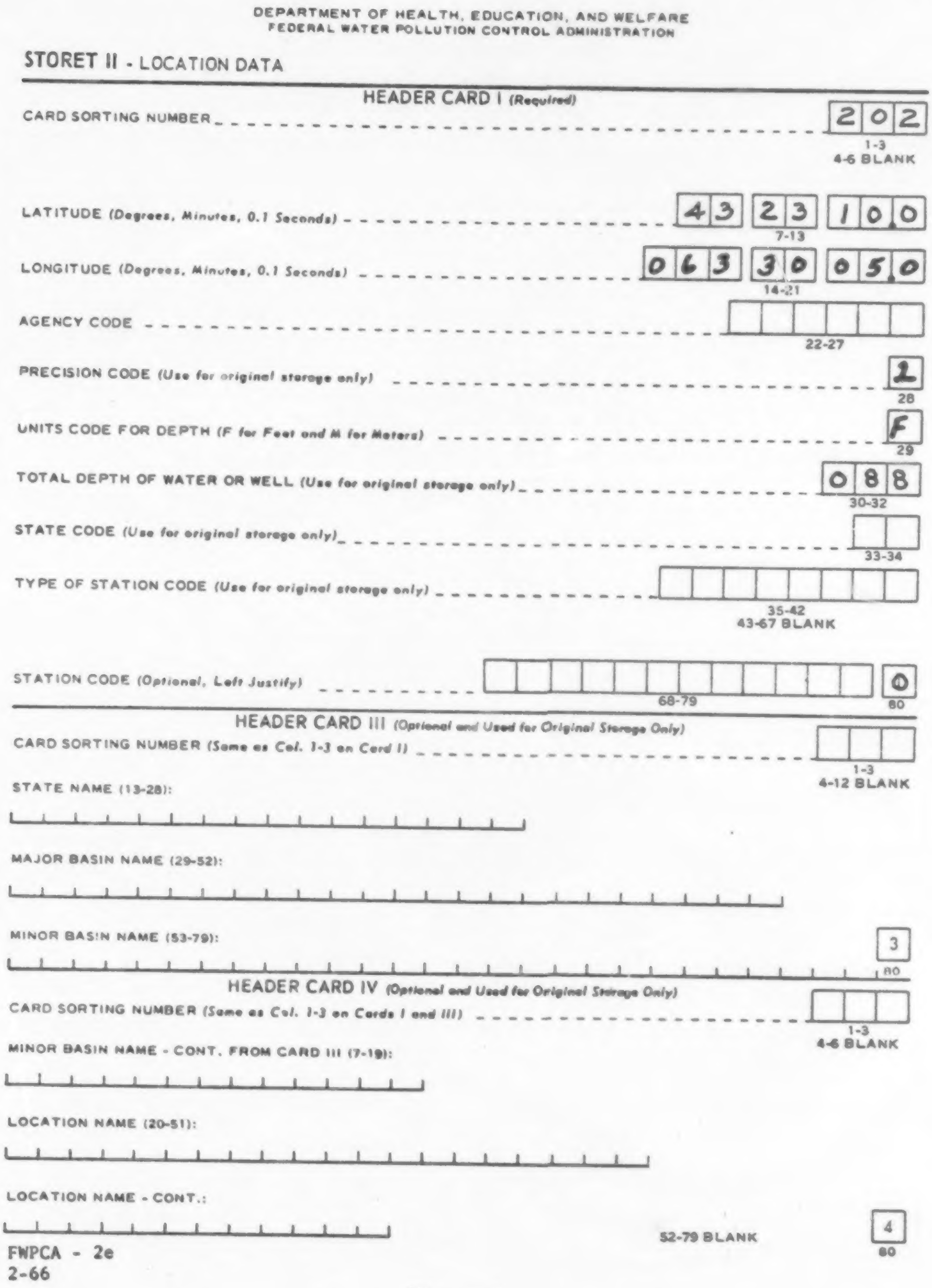
AGENCY CARD

AGENCY (USER) CODE 1 – 8
BLANK 9-16
UNLOCKING KEY 17 – 24
USER NAME, LOCATION, PROJECT, ETC. 25 – 42
43 – 61
DEPTH-FEET (F) OR METERS (M) 62
STORE CODE 63 – 65
STATION TYPE 66 – 73
UNLOCKING DATE YEAR 74 75 MO. 76 77
CONTROL CODE 78 79
A 80

STATION CARD

SEQUENCE NUMBER 2 0 1 (1 – 3)
PRIME STATION CODE 9 5 0 0 0 6 (4 – 18) *
BLANK 19-33
(1) SECONDARY STATION CODE 0 0 2 (34 – 45) *
(2) SECONDARY STATION CODE 46 – 57 *
(3) SECONDARY STATION CODE 58 – 67 *
* LEFT JUSTIFY
STATE CODE 9 5 (68 69)
COUNTY 70 – 72
CITY 73 – 77
C C (78 79) CONTROL CODE
S 80

Figure 3



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - LOCATION DATA

HEADER CARD I *(Required)*

CARD SORTING NUMBER	202	1-3 4-6 BLANK
LATITUDE *(Degrees, Minutes, 0.1 Seconds)*	43 23 10.0	7-13
LONGITUDE *(Degrees, Minutes, 0.1 Seconds)*	063 30 05.0	14-21
AGENCY CODE		22-27
PRECISION CODE *(Use for original storage only)*	1	28
UNITS CODE FOR DEPTH *(F for Feet and M for Meters)*	F	29
TOTAL DEPTH OF WATER OR WELL *(Use for original storage only)*	088	30-32
STATE CODE *(Use for original storage only)*		33-34
TYPE OF STATION CODE *(Use for original storage only)*		35-42 43-67 BLANK
STATION CODE *(Optional, Left Justify)*		68-79
	0	80

HEADER CARD III *(Optional and Used for Original Storage Only)*

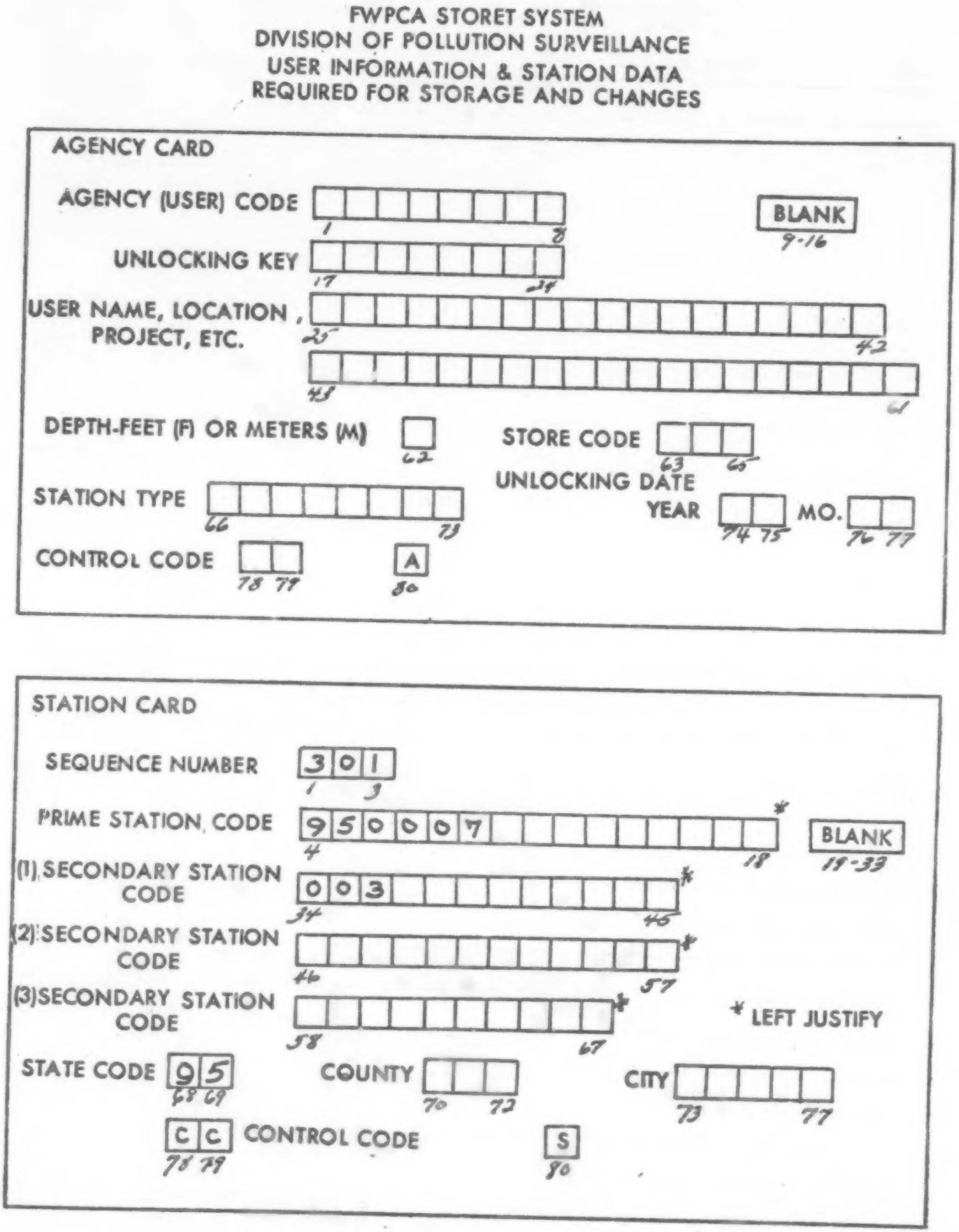
CARD SORTING NUMBER *(Same as Col. 1-3 on Card I)*		1-3 4-12 BLANK
STATE NAME (13-28):		
MAJOR BASIN NAME (29-52):		
MINOR BASIN NAME (53-79):	3	80

HEADER CARD IV *(Optional and Used for Original Storage Only)*

CARD SORTING NUMBER *(Same as Col. 1-3 on Cards I and III)*		1-3 4-6 BLANK
MINOR BASIN NAME - CONT. FROM CARD III (7-19):		
LOCATION NAME (20-51):		
LOCATION NAME - CONT.:	52-79 BLANK	
	4	80

FWPCA - 2e
2-66

Figure 4



FWPCA STORET SYSTEM
DIVISION OF POLLUTION SURVEILLANCE
USER INFORMATION & STATION DATA
REQUIRED FOR STORAGE AND CHANGES

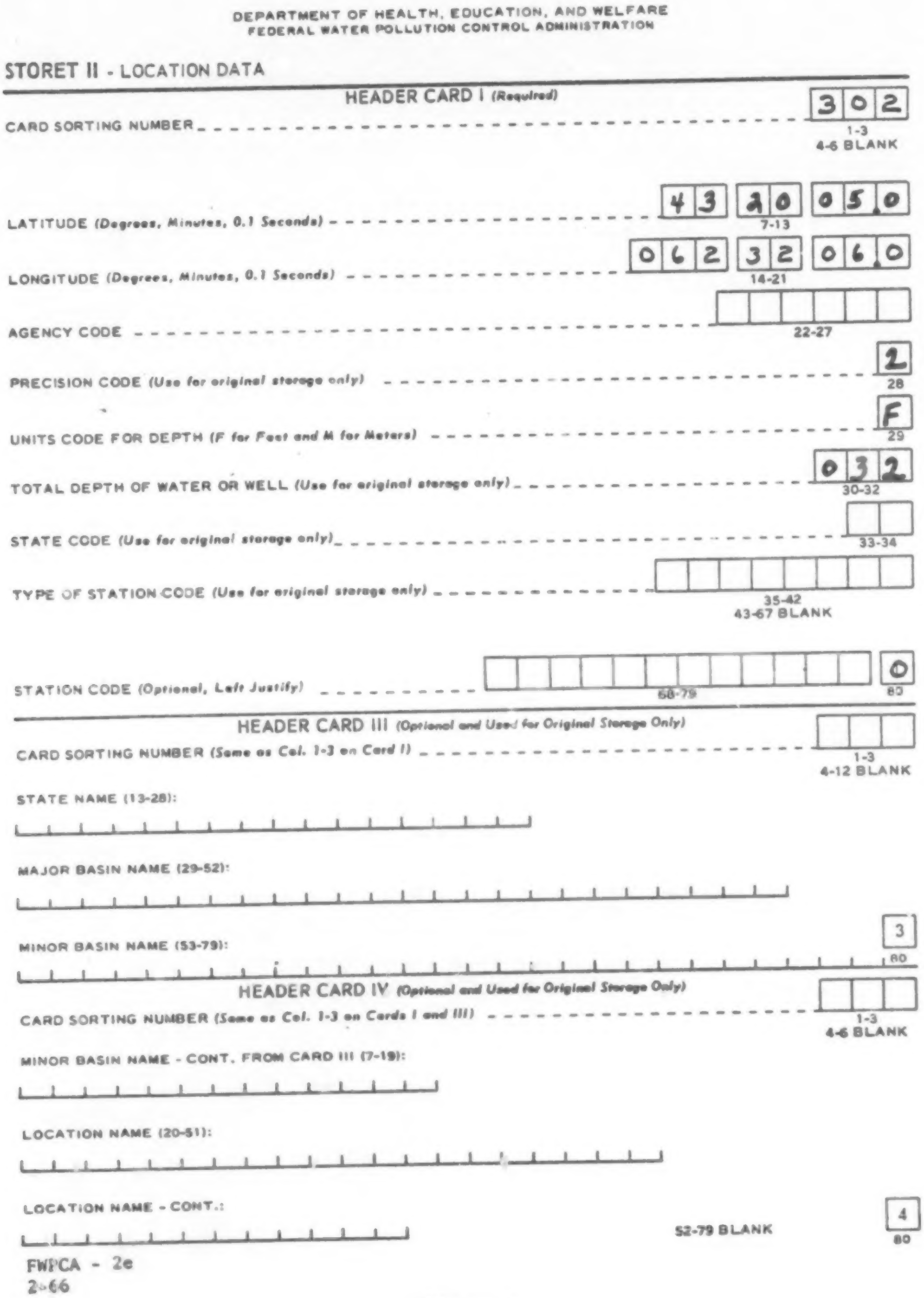
AGENCY CARD

AGENCY (USER) CODE 1 – 8 BLANK 9-16
UNLOCKING KEY 17 – 24
USER NAME, LOCATION, PROJECT, ETC. 25 – 42
43 – 61
DEPTH-FEET (F) OR METERS (M) 62
STORE CODE 63 – 65
STATION TYPE 66 – 73
UNLOCKING DATE YEAR 74 75 MO. 76 77
CONTROL CODE 78 79 A 80

STATION CARD

SEQUENCE NUMBER 3 0 1 (1 – 3)
PRIME STATION CODE 9 5 0 0 0 7 (4 – 18)* BLANK 19-33
(1) SECONDARY STATION CODE 0 0 3 (34 – 45)*
(2) SECONDARY STATION CODE 46 – 57*
(3) SECONDARY STATION CODE 58 – 67*
* LEFT JUSTIFY
STATE CODE 9 5 (68 69)
COUNTY 70 – 72
CITY 73 – 77
C C (78 79) CONTROL CODE S 80

Figure 5



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - LOCATION DATA

HEADER CARD I *(Required)*

CARD SORTING NUMBER 302 (1-3) 4-6 BLANK

LATITUDE *(Degrees, Minutes, 0.1 Seconds)* 43 20 05.0 (7-13)

LONGITUDE *(Degrees, Minutes, 0.1 Seconds)* 062 32 06.0 (14-21)

AGENCY CODE (22-27)

PRECISION CODE *(Use for original storage only)* 2 (28)

UNITS CODE FOR DEPTH *(F for Feet and M for Meters)* F (29)

TOTAL DEPTH OF WATER OR WELL *(Use for original storage only)* 032 (30-32)

STATE CODE *(Use for original storage only)* (33-34)

TYPE OF STATION CODE *(Use for original storage only)* (35-42) 43-67 BLANK

STATION CODE *(Optional, Left Justify)* (68-79) 0 (80)

HEADER CARD III *(Optional and Used for Original Storage Only)*

CARD SORTING NUMBER *(Same as Col. 1-3 on Card I)* (1-3) 4-12 BLANK

STATE NAME (13-28):

MAJOR BASIN NAME (29-52):

MINOR BASIN NAME (53-79): 3 (80)

HEADER CARD IV *(Optional and Used for Original Storage Only)*

CARD SORTING NUMBER *(Same as Col. 1-3 on Cards I and III)* (1-3) 4-6 BLANK

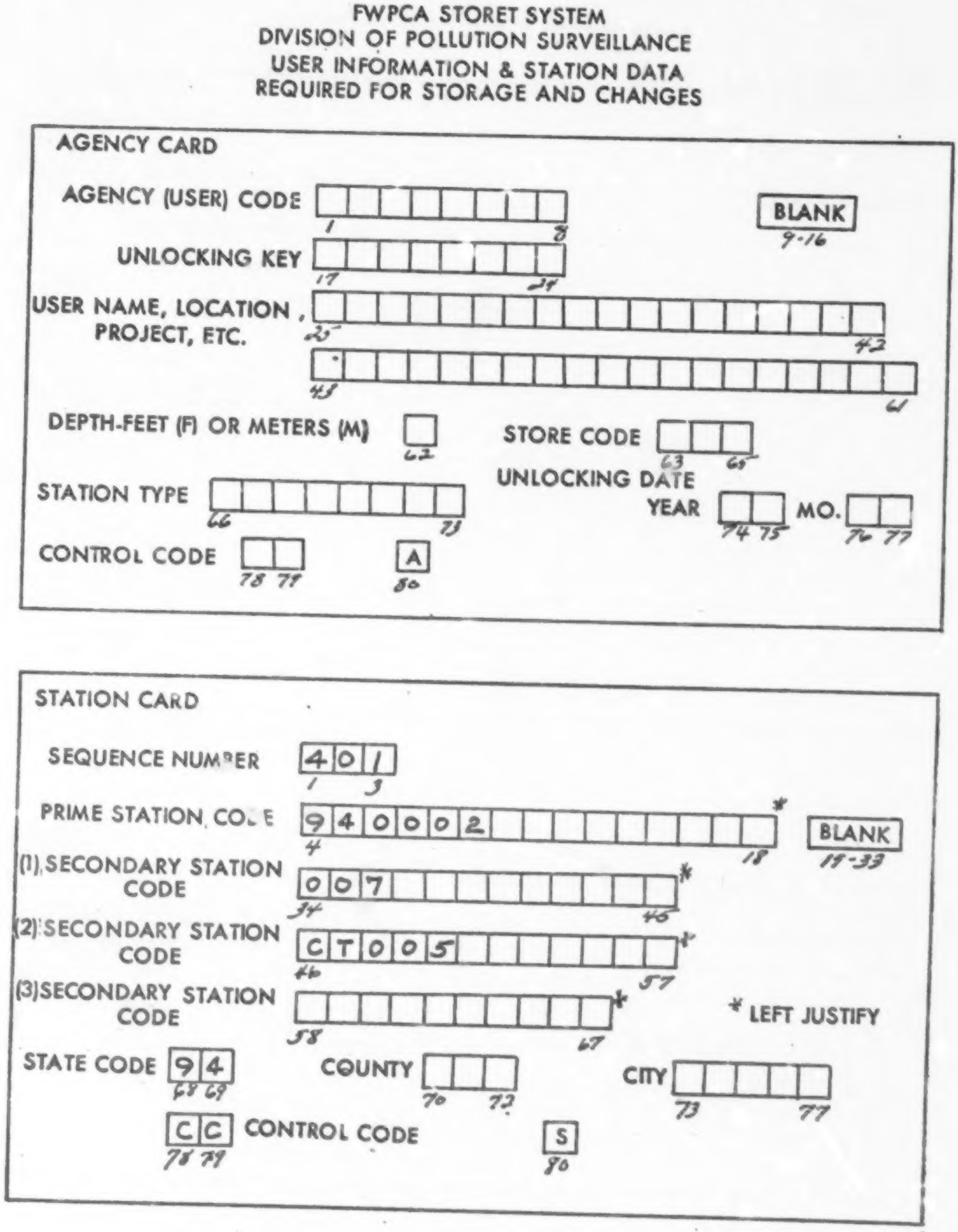
MINOR BASIN NAME - CONT. FROM CARD III (7-19):

LOCATION NAME (20-51):

LOCATION NAME - CONT.: 52-79 BLANK 4 (80)

FWPCA - 2e
2-66

Figure 6



FWPCA STORET SYSTEM
DIVISION OF POLLUTION SURVEILLANCE
USER INFORMATION & STATION DATA
REQUIRED FOR STORAGE AND CHANGES

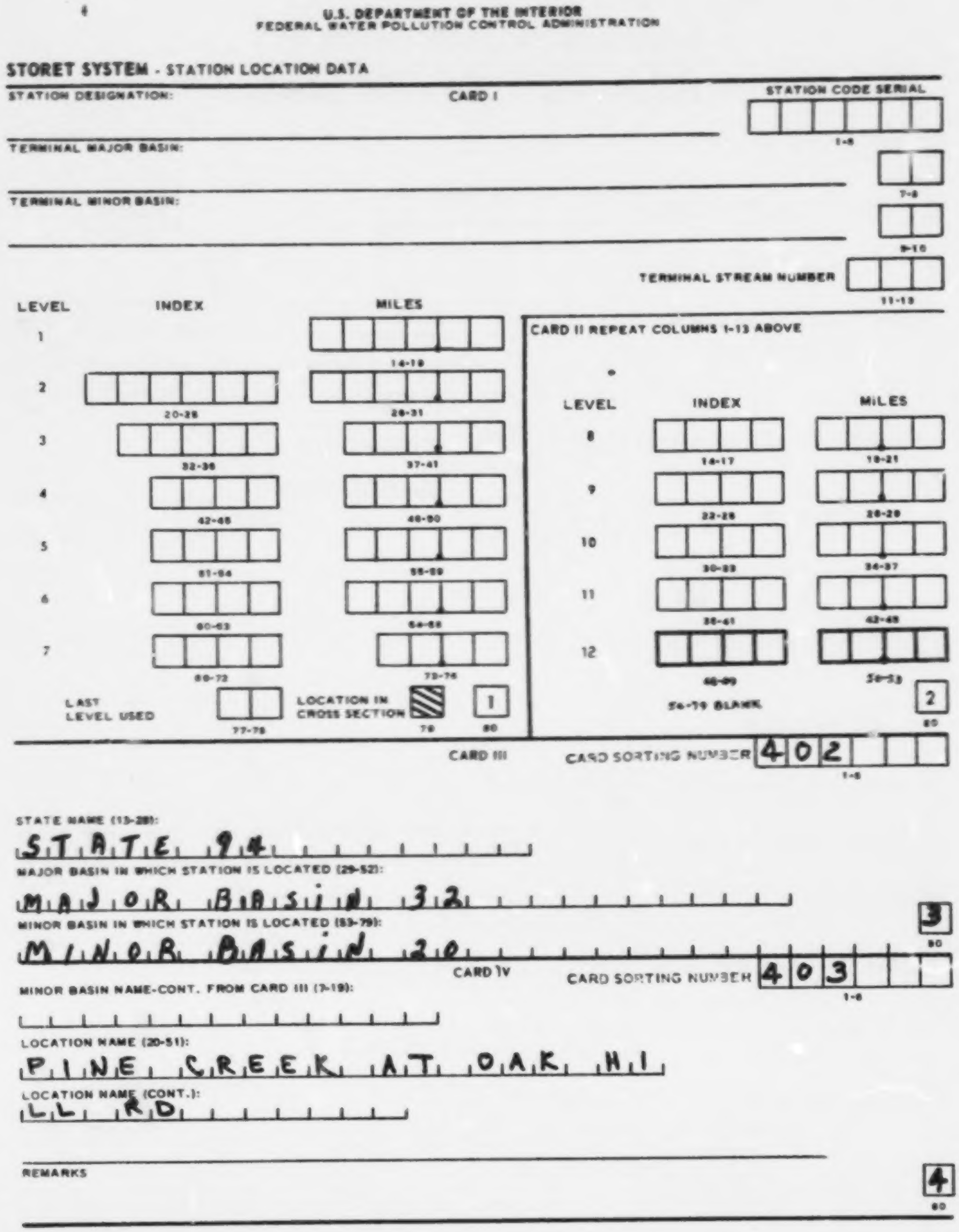
AGENCY CARD

AGENCY (USER) CODE ☐☐☐☐☐☐☐☐ 1 8 — BLANK 9-16
UNLOCKING KEY ☐☐☐☐☐☐☐☐ 17 24
USER NAME, LOCATION, PROJECT, ETC. ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐ 25 42
☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐ 43 61
DEPTH-FEET (F) OR METERS (M) ☐ 62
STORE CODE ☐☐☐ 63 65
STATION TYPE ☐☐☐☐☐☐☐☐ 66 73
UNLOCKING DATE YEAR ☐☐ 74 75 MO. ☐☐ 76 77
CONTROL CODE ☐☐ 78 79 — A 80

STATION CARD

SEQUENCE NUMBER 4 0 1 — 1 3
PRIME STATION CODE 9 4 0 0 0 2 ☐☐☐☐☐☐☐☐☐* 4 18 — BLANK 19-33
(1) SECONDARY STATION CODE 0 0 7 ☐☐☐☐☐☐☐☐☐* 34 45
(2) SECONDARY STATION CODE C T 0 0 5 ☐☐☐☐☐☐☐* 46 57
(3) SECONDARY STATION CODE ☐☐☐☐☐☐☐☐☐☐* 58 67
* LEFT JUSTIFY
STATE CODE 9 4 — 68 69
COUNTY ☐☐☐ 70 72
CITY ☐☐☐☐☐ 73 77
C C 78 79 CONTROL CODE — S 80

Figure 7



U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET SYSTEM - STATION LOCATION DATA

CARD I

STATION DESIGNATION:

STATION CODE SERIAL ☐☐☐☐☐☐ 1-6

TERMINAL MAJOR BASIN: ☐☐ 7-8

TERMINAL MINOR BASIN: ☐☐ 9-10

TERMINAL STREAM NUMBER ☐☐☐ 11-13

LEVEL	INDEX	MILES
1		☐☐☐☐☐☐ 14-19
2	☐☐☐☐☐☐ 20-25	☐☐☐☐☐☐ 26-31
3	☐☐☐☐☐ 32-36	☐☐☐☐☐ 37-41
4	☐☐☐☐ 42-45	☐☐☐☐☐ 46-50
5	☐☐☐☐ 51-54	☐☐☐☐☐ 55-59
6	☐☐☐☐ 60-63	☐☐☐☐☐ 64-68
7	☐☐☐☐ 69-72	☐☐☐☐ 73-76

LAST LEVEL USED ☐☐ 77-78

LOCATION IN CROSS SECTION ▨ 79

1 80

CARD II REPEAT COLUMNS 1-13 ABOVE

LEVEL	INDEX	MILES
8	☐☐☐☐ 14-17	☐☐☐☐ 18-21
9	☐☐☐☐ 22-25	☐☐☐☐ 26-29
10	☐☐☐☐ 30-33	☐☐☐☐ 34-37
11	☐☐☐☐ 38-41	☐☐☐☐ 42-45
12	☐☐☐☐ 46-49	☐☐☐☐ 50-53

54-79 BLANK

2 80

CARD III

CARD SORTING NUMBER 4 0 2 1-6

STATE NAME (13-28):
STATE 94

MAJOR BASIN IN WHICH STATION IS LOCATED (29-52):
MAJOR BASIN 32

MINOR BASIN IN WHICH STATION IS LOCATED (53-79):
MINOR BASIN 20

3 80

CARD IV

CARD SORTING NUMBER 4 0 3 1-6

MINOR BASIN NAME-CONT. FROM CARD III (7-19):

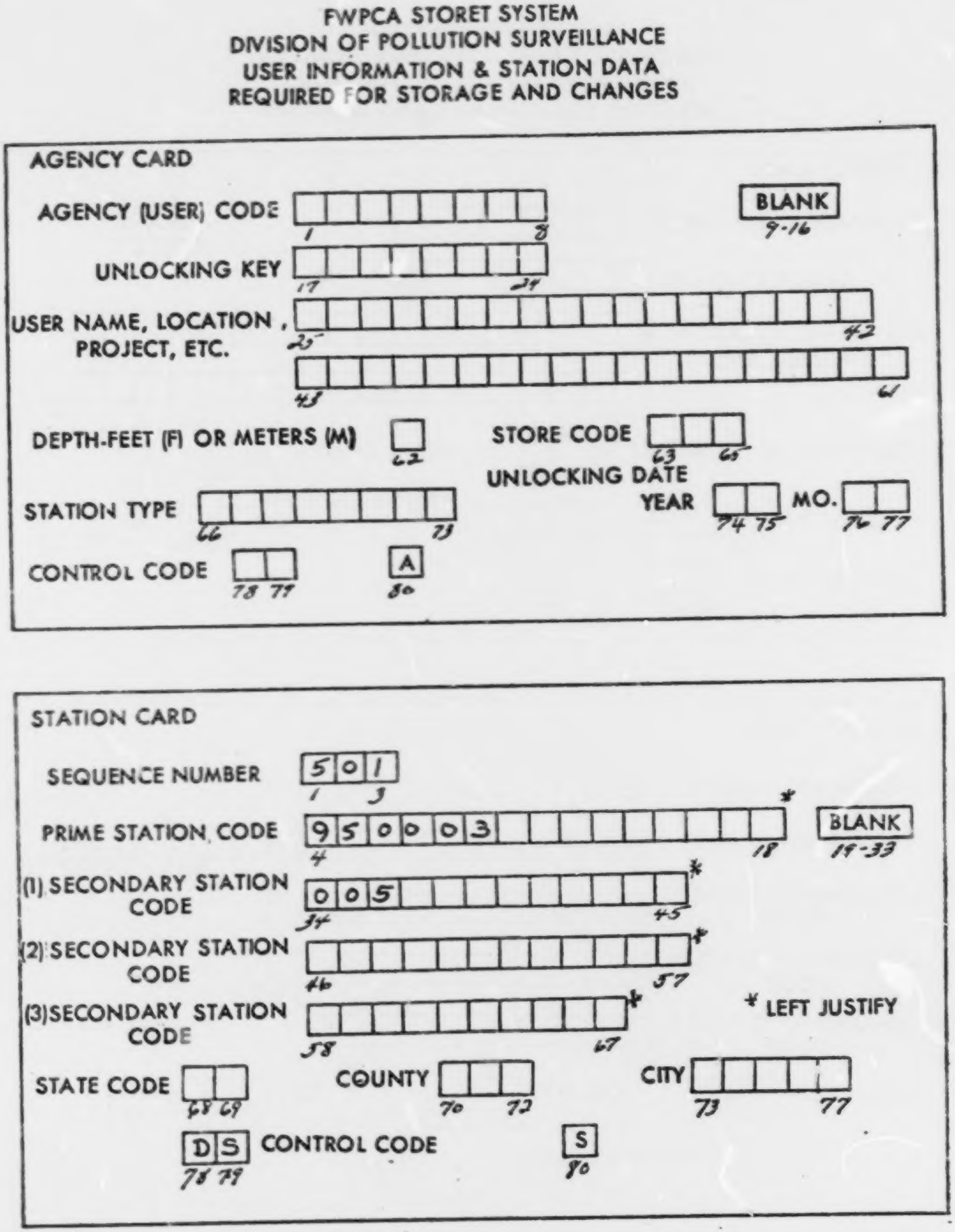
LOCATION NAME (20-51):
PINE CREEK AT OAK HI

LOCATION NAME (CONT.):
LL RD

REMARKS

4 80

Figure 8



FWPCA STORET SYSTEM
DIVISION OF POLLUTION SURVEILLANCE
USER INFORMATION & STATION DATA
REQUIRED FOR STORAGE AND CHANGES

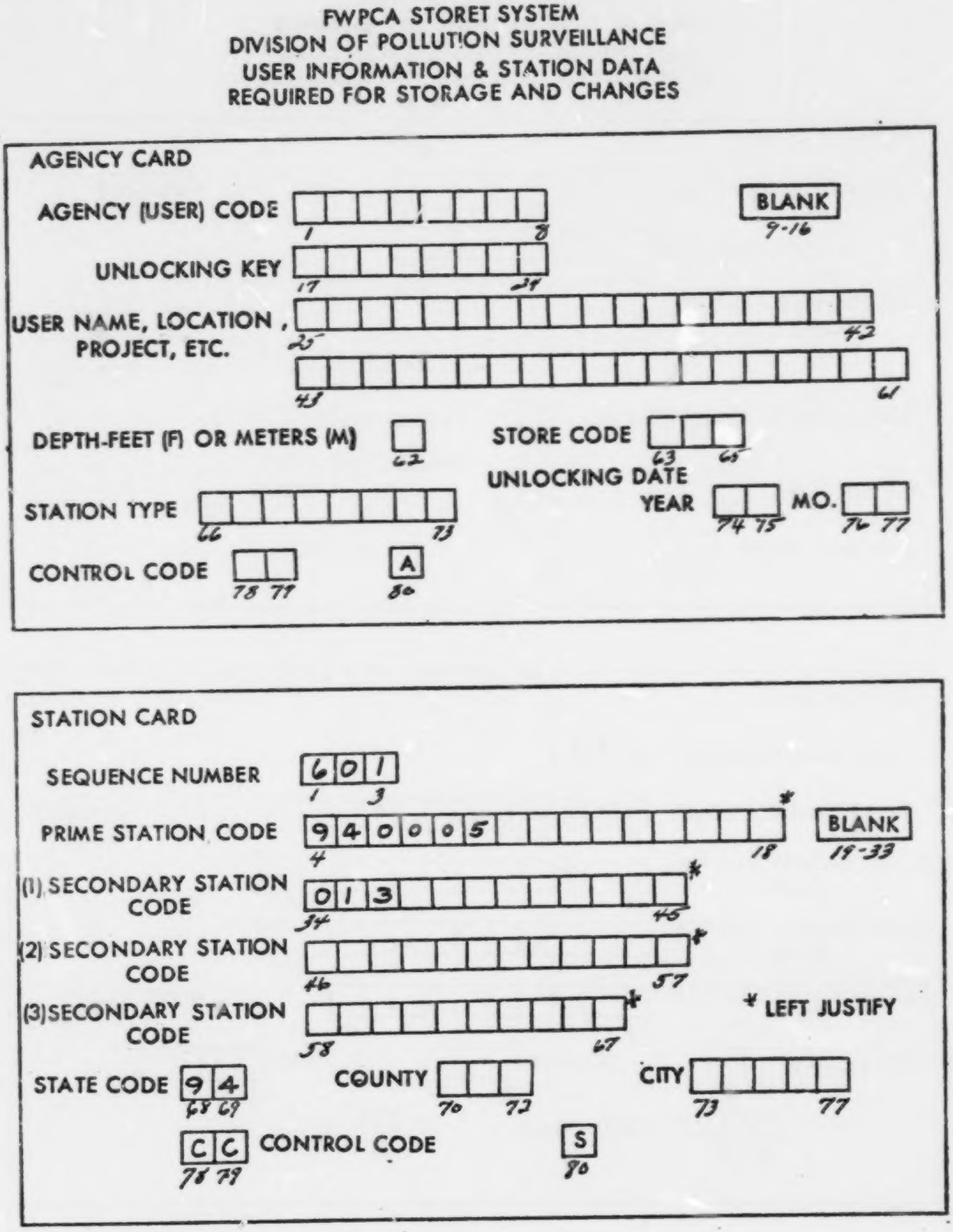
AGENCY CARD

AGENCY (USER) CODE 1–8 BLANK 9-16
UNLOCKING KEY 17–24
USER NAME, LOCATION, PROJECT, ETC. 25–42, 43–61
DEPTH-FEET (F) OR METERS (M) 62
STORE CODE 63–65
UNLOCKING DATE YEAR 74 75 MO. 76 77
STATION TYPE 66–73
CONTROL CODE 78 79 A 80

STATION CARD

SEQUENCE NUMBER 501 (1–3)
PRIME STATION CODE 950003 (4–18*) BLANK 19-33
(1) SECONDARY STATION CODE 005 (34–45*)
(2) SECONDARY STATION CODE 46–57*
(3) SECONDARY STATION CODE 58–67*
* LEFT JUSTIFY
STATE CODE 68 69
COUNTY 70–72
CITY 73–77
DS (78 79) CONTROL CODE S (80)

Figure 9



FWPCA STORET SYSTEM
DIVISION OF POLLUTION SURVEILLANCE
USER INFORMATION & STATION DATA
REQUIRED FOR STORAGE AND CHANGES

AGENCY CARD

AGENCY (USER) CODE ☐☐☐☐☐☐☐☐ 1–8 BLANK 9-16

UNLOCKING KEY ☐☐☐☐☐☐☐☐ 17–24

USER NAME, LOCATION, PROJECT, ETC. 25–42, 43–61

DEPTH-FEET (F) OR METERS (M) ☐ 62

STORE CODE ☐☐☐ 63–65

STATION TYPE ☐☐☐☐☐☐☐☐ 66–73

UNLOCKING DATE YEAR ☐☐ 74 75 MO. ☐☐ 76 77

CONTROL CODE ☐☐ 78 79 A 80

STATION CARD

SEQUENCE NUMBER 6 0 1 (1–3)

PRIME STATION CODE 9 4 0 0 0 5 (4–18)* BLANK 19-33

(1) SECONDARY STATION CODE 0 1 3 (34–45)*

(2) SECONDARY STATION CODE (46–57)*

(3) SECONDARY STATION CODE (58–67)*

* LEFT JUSTIFY

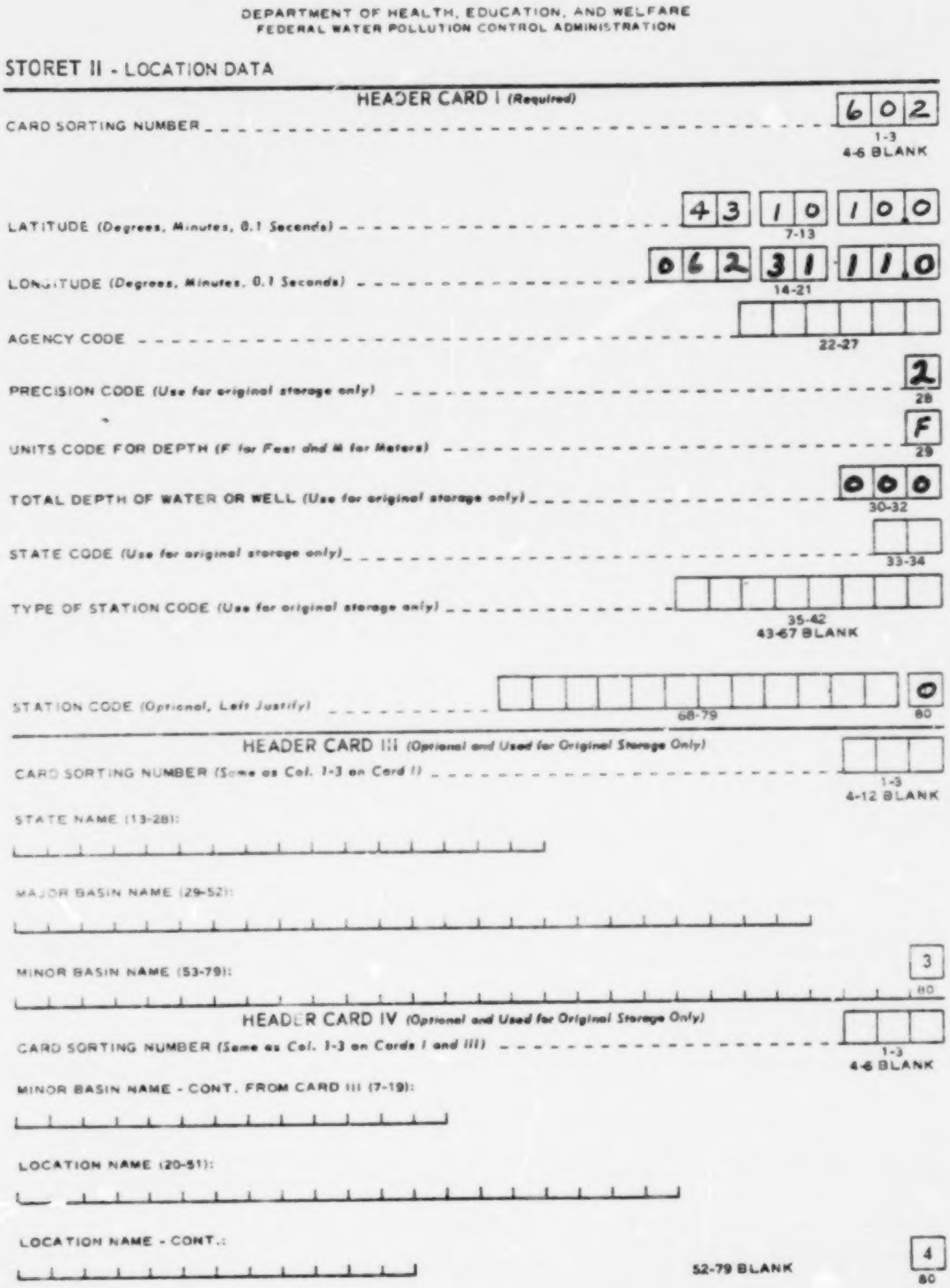
STATE CODE 9 4 (68 69)

COUNTY ☐☐☐ 70–72

CITY ☐☐☐☐☐ 73–77

C C (78 79) CONTROL CODE S 80

Figure 10



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - LOCATION DATA

HEADER CARD I *(Required)*

CARD SORTING NUMBER: 6 0 2 (1-3; 4-6 BLANK)

LATITUDE *(Degrees, Minutes, 0.1 Seconds)*: 43 10 10.0 (7-13)

LONGITUDE *(Degrees, Minutes, 0.1 Seconds)*: 062 31 11.0 (14-21)

AGENCY CODE: (22-27)

PRECISION CODE *(Use for original storage only)*: 2 (28)

UNITS CODE FOR DEPTH *(F for Feet and M for Meters)*: F (29)

TOTAL DEPTH OF WATER OR WELL *(Use for original storage only)*: 0 0 0 (30-32)

STATE CODE *(Use for original storage only)*: (33-34)

TYPE OF STATION CODE *(Use for original storage only)*: (35-42; 43-67 BLANK)

STATION CODE *(Optional, Left Justify)*: (68-79) 0 (80)

HEADER CARD III *(Optional and Used for Original Storage Only)*

CARD SORTING NUMBER *(Same as Col. 1-3 on Card I)*: (1-3; 4-12 BLANK)

STATE NAME (13-28):

MAJOR BASIN NAME (29-52):

MINOR BASIN NAME (53-79): 3 (80)

HEADER CARD IV *(Optional and Used for Original Storage Only)*

CARD SORTING NUMBER *(Same as Col. 1-3 on Cards I and III)*: (1-3; 4-6 BLANK)

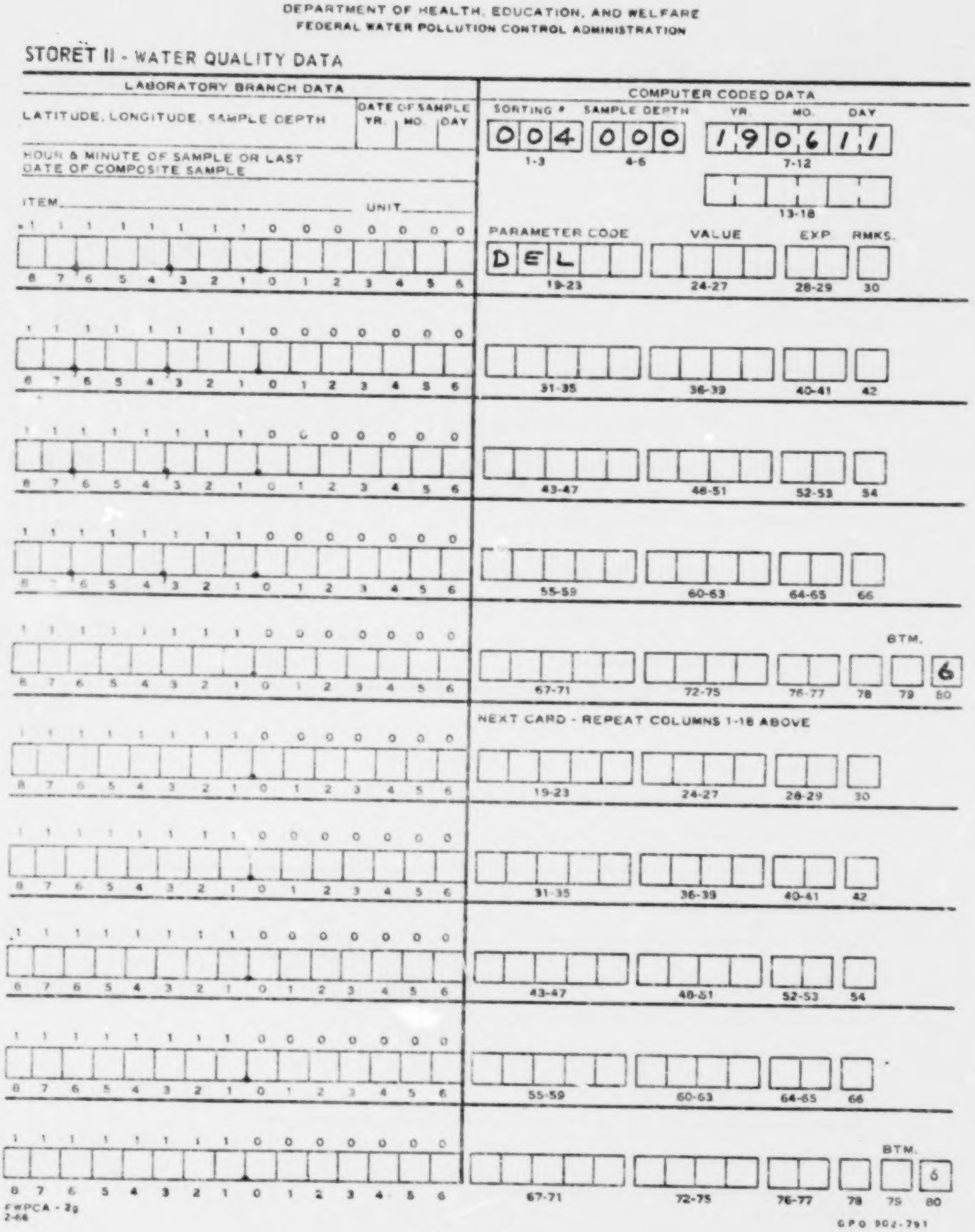
MINOR BASIN NAME - CONT. FROM CARD III (7-19):

LOCATION NAME (20-51):

LOCATION NAME - CONT.: 52-79 BLANK 4 (80)

FWPCA - 2e
2-66

Figure 11



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - WATER QUALITY DATA

LABORATORY BRANCH DATA

LATITUDE, LONGITUDE, SAMPLE DEPTH

DATE OF SAMPLE: YR. MO. DAY

HOUR & MINUTE OF SAMPLE OR LAST DATE OF COMPOSITE SAMPLE

ITEM________ UNIT________

COMPUTER CODED DATA

SORTING #	SAMPLE DEPTH	YR. MO. DAY
004	000	190611
1-3	4-6	7-12
		13-18

PARAMETER CODE	VALUE	EXP	RMKS.
DEL			
19-23	24-27	28-29	30
31-35	36-39	40-41	42
43-47	48-51	52-53	54
55-59	60-63	64-65	66
67-71	72-75	76-77	78 79 BTM. 80: 6

NEXT CARD - REPEAT COLUMNS 1-18 ABOVE

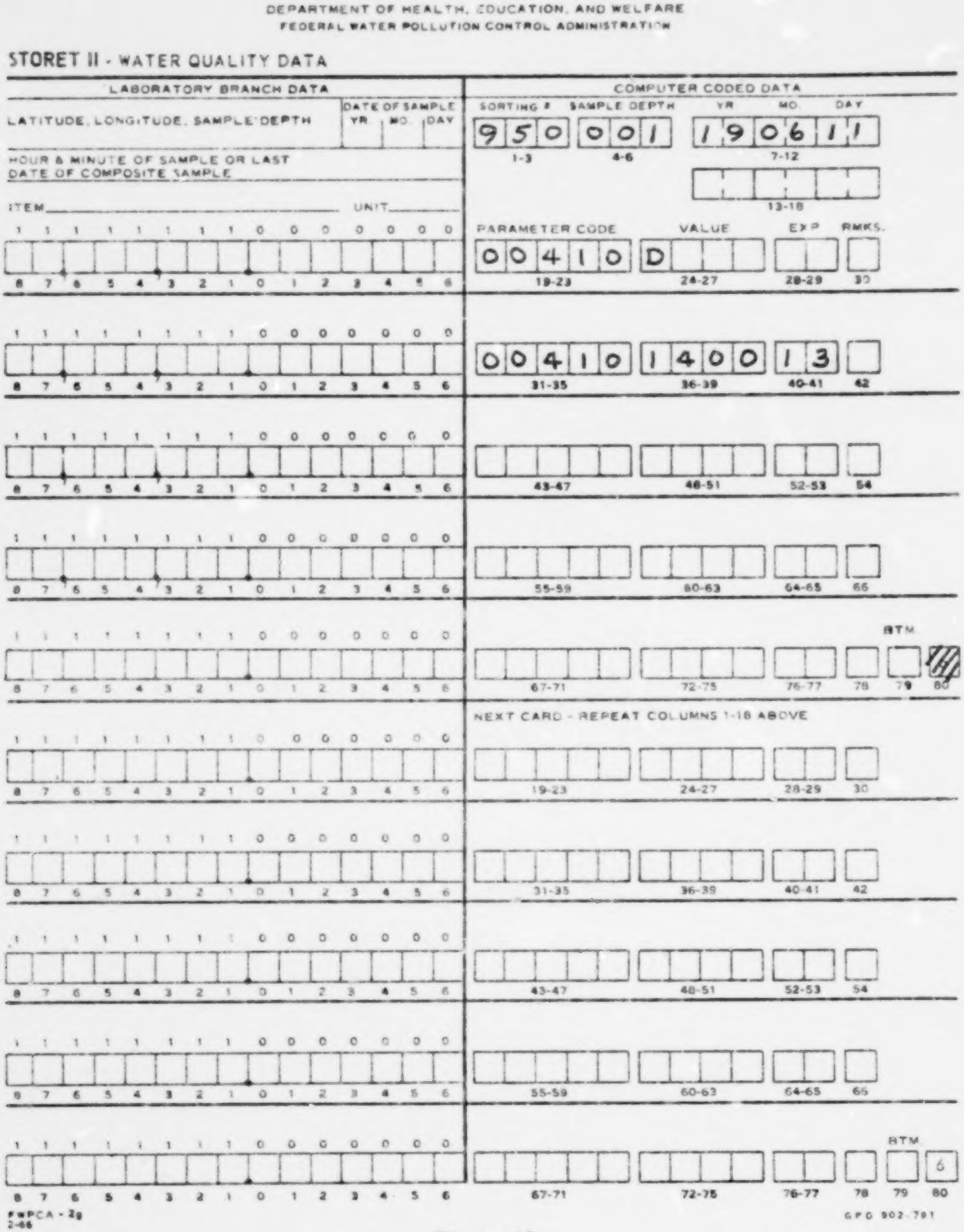
19-23	24-27	28-29	30
31-35	36-39	40-41	42
43-47	48-51	52-53	54
55-59	60-63	64-65	66
67-71	72-75	76-77	78 79 BTM. 80: 6

Left-hand scale, printed on each of the ten lines:
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
8 7 6 5 4 3 2 1 0 1 2 3 4 5 6

FWPCA - 2g
2-66

GPO 902-791

Figure 12



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

STORET II - WATER QUALITY DATA

LABORATORY BRANCH DATA			
LATITUDE, LONGITUDE, SAMPLE DEPTH	DATE OF SAMPLE YR.	MO.	DAY
HOUR & MINUTE OF SAMPLE OR LAST DATE OF COMPOSITE SAMPLE			
ITEM____		UNIT____	

1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6
1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6
1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6
1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6
1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6
1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6
1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6
1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6
1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6
1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
8	7	6	5	4	3	2	1	0	1	2	3	4	5	6

COMPUTER CODED DATA

SORTING #	SAMPLE DEPTH	YR	MO.	DAY
950	001	19	06	11
1-3	4-6	7-12		
		13-18		

PARAMETER CODE	VALUE	EXP	RMKS.		
00410	D				
19-23	24-27	28-29	30		
00410	1400	13			
31-35	36-39	40-41	42		
43-47	48-51	52-53	54		
55-59	60-63	64-65	66		
				BTM	
					▨
67-71	72-75	76-77	78	79	80

NEXT CARD - REPEAT COLUMNS 1-18 ABOVE

19-23	24-27	28-29	30		
31-35	36-39	40-41	42		
43-47	48-51	52-53	54		
55-59	60-63	64-65	66		
				BTM	
					6
67-71	72-75	76-77	78	79	80

FWPCA - 2g
2-66

GPO 902-791

Figure 13

CHAPTER VII

RETRIEVAL

	Outline Number
Standard Retrieval	9
Retrieval for Analysis	10

6

STANDARD RETRIEVAL

I RETRIEVAL FUNDAMENTALS

One of the great powers of STORET is the flexible manner in which raw data may be retrieved. Display of raw data in printouts allows simple visual scanning of output records to detect trends and unusual values. The retrieval procedures are designed to allow retrieval of only desired data in the form needed at minimum cost and speed. Options are available to:

A Identify Locations

1 By specific station numbers

2 By hydrologic index

3 By geographical coordinates -- longitude and latitude

B Control Format

1 Print constant heading information on the leading lines of each page of printout.

2 Delete or include descriptive paragraph.

3 Specify the identity and printout position of parameters retrieved.

4 Control the format in which parameter values are printed.

C Limit Retrieval

1 To samples collected only by specified agencies (users)

2 To samples collected on or between specified dates

3 To samples collected at or within specified depths

4 To samples collected only at stations of specified type

5 To stations located within specified states

6 To samples of specified type

As in storage, retrieval is controlled by selection and coding of appropriate cards. Retrieval Control Cards include types 0, 1, 3, 5, 6, 7, 8, 9, and L.

II IDENTIFYING LOCATIONS

The locations at which data are to retrieved may be identified by specific station number, hydrologic index, or geographical coordinates.

A Specific Station Numbers

This method may be used if specific prime and/or secondary station numbers are known. Control card 6 is required.

B Hydrologic Index

Retrieval may be limited to stations located on a defined river system. As shown in Figure 1, four types of hydrologic retrieval are available.

1 All stations on main stream and tributaries upstream from above a control point. Requires control card 7.

2 All stations on a main stream downstream from below a control point. Requires control card 8 and 9. Retrieval code 2.

3 All stations on both main stream and tributaries below a control point. Requires control cards 8 and 9. Retrieval code 4.

4 Stations on a segment of stream between two control points. Requires cards 8 and 9. Retrieval code 2.

Stations will be printed in hydrologic order, as shown in Figure 2.

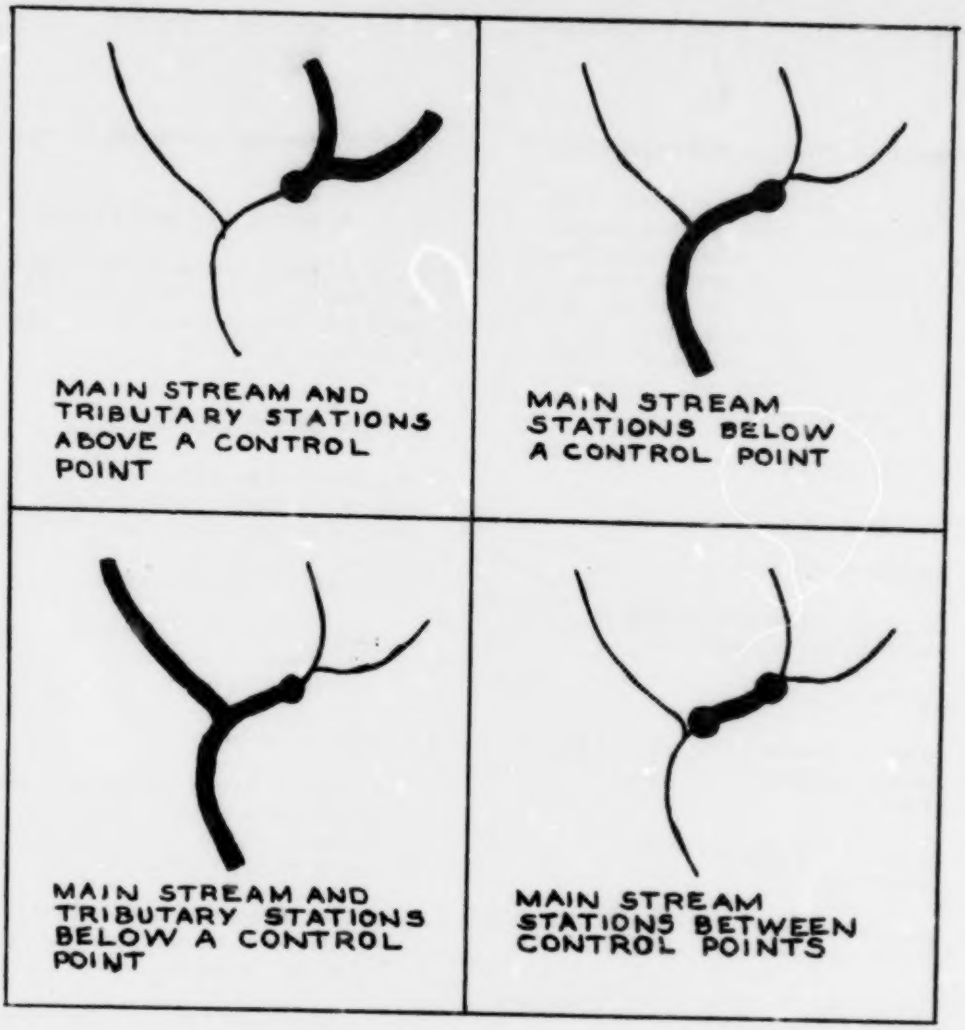
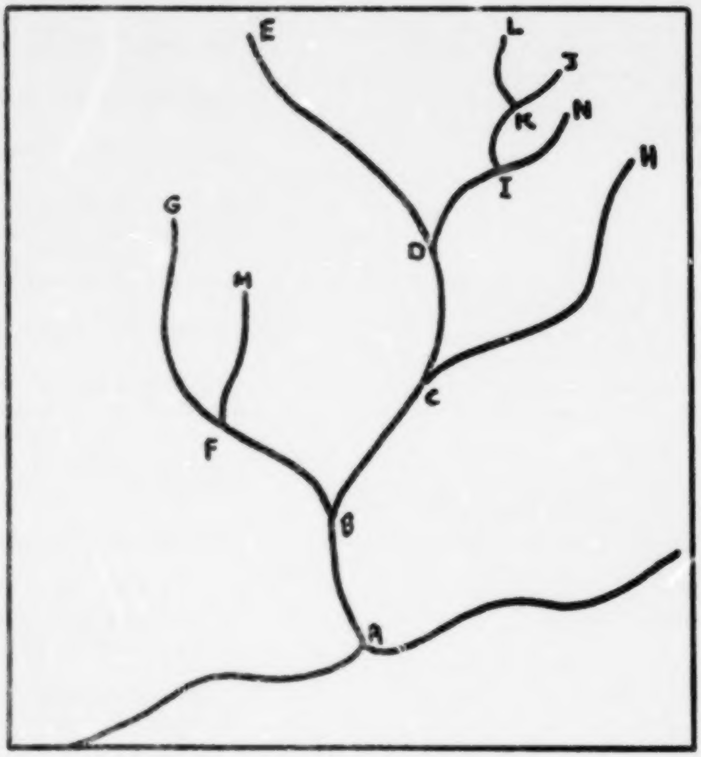

MAIN STREAM AND TRIBUTARY STATIONS ABOVE A CONTROL POINT
MAIN STREAM STATIONS BELOW A CONTROL POINT
MAIN STREAM AND TRIBUTARY STATIONS BELOW A CONTROL POINT
MAIN STREAM STATIONS BETWEEN CONTROL POINTS

Figure 1. TYPES OF HYDROLOGIC RETRIEVAL



Order of retrieved stations above point A (i.e., 0.0 mile)

1. Stream segment A, B, C, D and E
2. Stream segment B, F, and G
3. Stream segment F and M
4. Stream segment C and H
5. Stream segment D, I and N
6. Stream segment I, K and J
7. Stream segment K and L

Figure 2. ORDER OF HYDROLOGIC RETRIEVAL

C Geographic Retrieval

Data may also be retrieved by geographic coordinates. With this method users may retrieve data collected at all stations within arbitrarily defined polygons, as shown in Figure 3.

III CARD FORMATS

Control Cards 0, 1, 3, 5, 6, 7, 8, 9, and/or L are required for retrieval. Card Type for retrieval is indicated by the code contained in column 1, rather than in column 80 as in storage. A single composite coding form, shown in Figures 4 and 5, is used for all retrieval cards.

Normal deck arrangement is presented in Table 1. An agency (A) card is required unless data is being stored in the same computer run.

A Constant Information, Card 0

For any single retrieval constant heading information may be printed at the top of each page of printout.

1 Line location is coded in columns 2-3.

2 The position of the first character to be printed for the coded line is coded in columns 4-6.

3 The constant information to be printed is coded in columns 7-80.

4 If "Report Number 26" were to be printed at the top of each output sheet, card 0 would be coded as follows:

Column 1	0
Columns 2-3	01
Columns 4-6	032
Columns 7-22	Report Number 26
Columns 23-80	Blank

Users should avoid coding so much information on each 0 card (or so positioning that information) that the normal STORET heading and the desired heading information conflict.

B Master Control, Card 1

1 Card type, Column 1

Code this column with a 1.

2 Upper depth, Columns 2-7

Code this column with the depth above which sample data are not to be retrieved. If no restriction is required, code this field with zeros (000000).

3 Lower depth, Columns 8-13

Code this field with the depth below which sample data are not to be retrieved. If no restriction is required, code this field with 9's (999999).

4 Date control, Columns 14-19, 20-25

a Code columns 14-19 with the beginning date to start retrieval in year, month, day order.

b The ending date to stop retrieval is similarly coded in columns 20-25.

c To obtain data for the period of record code the beginning date with zeros and the ending date with nines.

5 Agency (user) codes, Columns 26-49

This field contains agency codes to which retrieval may be restricted. If no restriction is required, the field is left blank.

a Columns 26-33: Agency 1

b Columns 34-41: Agency 2

c Columns 42-49: Agency 3

6 Unlocking key, Columns 50-57

Used to retrieve data collected after a previously stored unlocking date. Unless the unlocking key provided during original storage is coded in this field data stored after the unlocking date will not be retrieved, whatever the date range specified in columns 14-25. Coding should be left justified. If no unlocking date was specified, this field may be left blank.

7 State codes, Columns 58-63

This field contains state codes to which retrieval may be restricted. If no restriction is desired, the field is left blank.

a Columns 58-59: Code for state 1

b Columns 60-61: Code for state 2

c Columns 62-63: Code for state 3

8 Station type, Columns 64-71

This field is used to restrict retrieval to stations of a specified type. For example, if code 06441204 were specified data would be retrieved only from treated industrial effluent stations located on streams at which flow and water quality data are stored. If a station type restriction is not desired, code this field with sevens (77777777).

9 Descriptive paragraph printout, Column 72

Code column 72 blank if no descriptive paragraph is to be printed or with a 1 if a descriptive paragraph is desired.

10 Subsequent analysis, Column 73

a Code with 3 if data will be subjected to subsequent statistical or other analysis.

b Code with 4 if only water quality standards printout is desired.

11 Depth units, Column 74

Code with F if depths are to be printed in feet or M if depths are to be printed in meters.

12 Bottom sample restriction, Column 75

Code with 1 to restrict retrieval to bottom samples or 2 to retrieve only bottom samples within the depths specified in columns 2-7 and 8-13. If no restriction is desired, code this column blank.

13 Data listing elimination, Column 76

Code with 1 to eliminate the raw data listing. This option is used only with supplemental statistical and analysis programs. Code blank if a raw data listing is desired.

14 Composite sample restriction, Column 77

Code with a 1 to suppress composite samples from the printout, a 2 to retrieve only composite samples, or blank if no sample restriction is desired.

15 Code columns 78-80 blank

A Master Control (Type 1) Card is required for every retrieval. Each time card 1 is used columns 1, 2-7, 8-13, 14-19, 20-25, 64-71, and 74 must be completed.

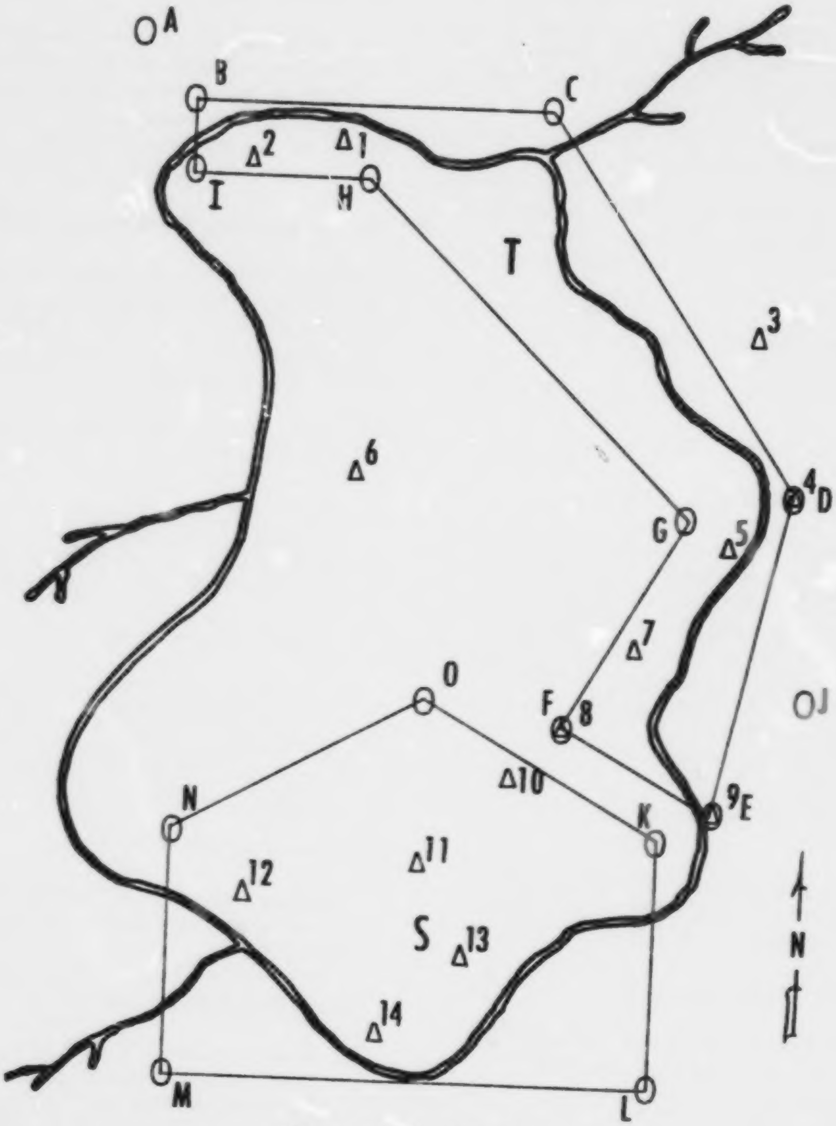
C Remark Restriction, Card 3

This card is used to restrict to parameter values associated only with specified remarks.

1 Code column 1 with a 3.

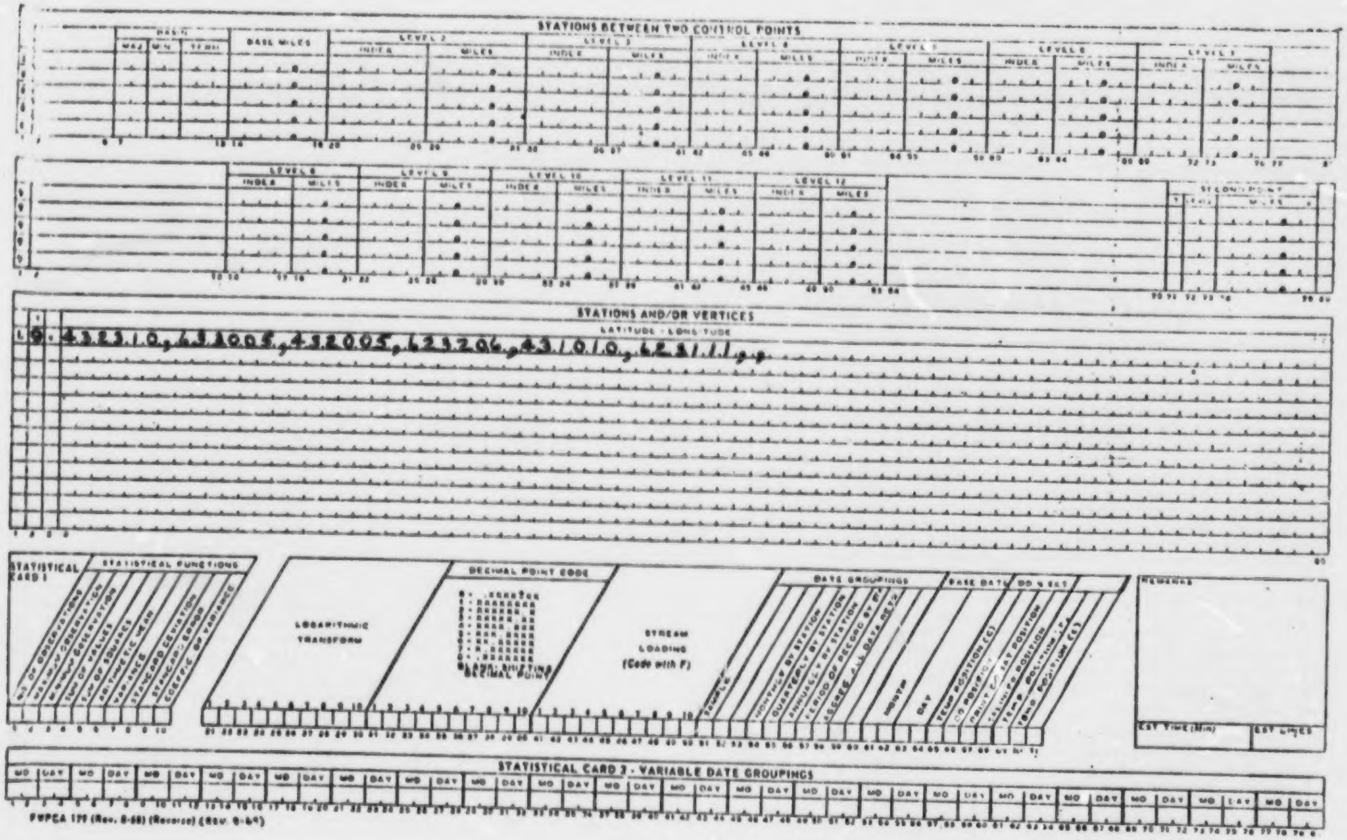
2 If only values associated with "greater than" and "less than" remarks were desired, columns 2-3 would be coded with LK. Columns 4-80 would be coded blank.

3 If only values associated with no remarks and "less than" remarks were desired, columns 2-3 would be coded with a blank in column 2 and K in column 3. Columns 4-80 would be coded blank.



Example of Retrieval Methods
PLATE 6

Figure 3. RETRIEVAL BY GEOGRAPHIC COORDINATES



STATIONS BETWEEN TWO CONTROL POINTS

BASE MILES

LEVEL 2 INDEX MILES

LEVEL 3 INDEX MILES

LEVEL 4 INDEX MILES

LEVEL 5 INDEX MILES

LEVEL 6 INDEX MILES

LEVEL 7 INDEX MILES

LEVEL 8 INDEX MILES

LEVEL 9 INDEX MILES

LEVEL 10 INDEX MILES

LEVEL 11 INDEX MILES

LEVEL 12 INDEX MILES

SECOND POINT MILES

STATIONS AND/OR VERTICES

LATITUDE - LONGITUDE

9 . 432310,633005,432005,623206,431010,623111,99

STATISTICAL CARD 1

STATISTICAL FUNCTIONS

LOGARITHMIC TRANSFORM

DECIMAL POINT CODE

BLANK: SHIFTING DECIMAL POINT

STREAM LOADING (Code with F)

DATE GROUPINGS

MONTHLY BY STATION

QUARTERLY BY STATION

ANNUALLY BY STATION

PERIOD OF RECORD BY ST

BASE DATE

MONTH

DAY

TEMP POSITION (C)

REMARKS

EST TIME (Min)

EST LINES

STATISTICAL CARD 2 - VARIABLE DATE GROUPINGS

MO	DAY	MO	DAY	MO	DAY	MO	DAY	MO	DAY	MO	DAY	MO	DAY	MO	DAY	MO	DAY	MO	DAY	MO	DAY	MO	DAY	MO	DAY	MO	DAY	MO	DAY	MO	DAY	MO	DAY	MO	DAY	MO	DAY	MO	DAY

FWPCA 171 (Rev. 8-68) (Reverse) (Rev. 9-69)

Figure 4. RETRIEVAL CODING FORM (CARDS 0-7)

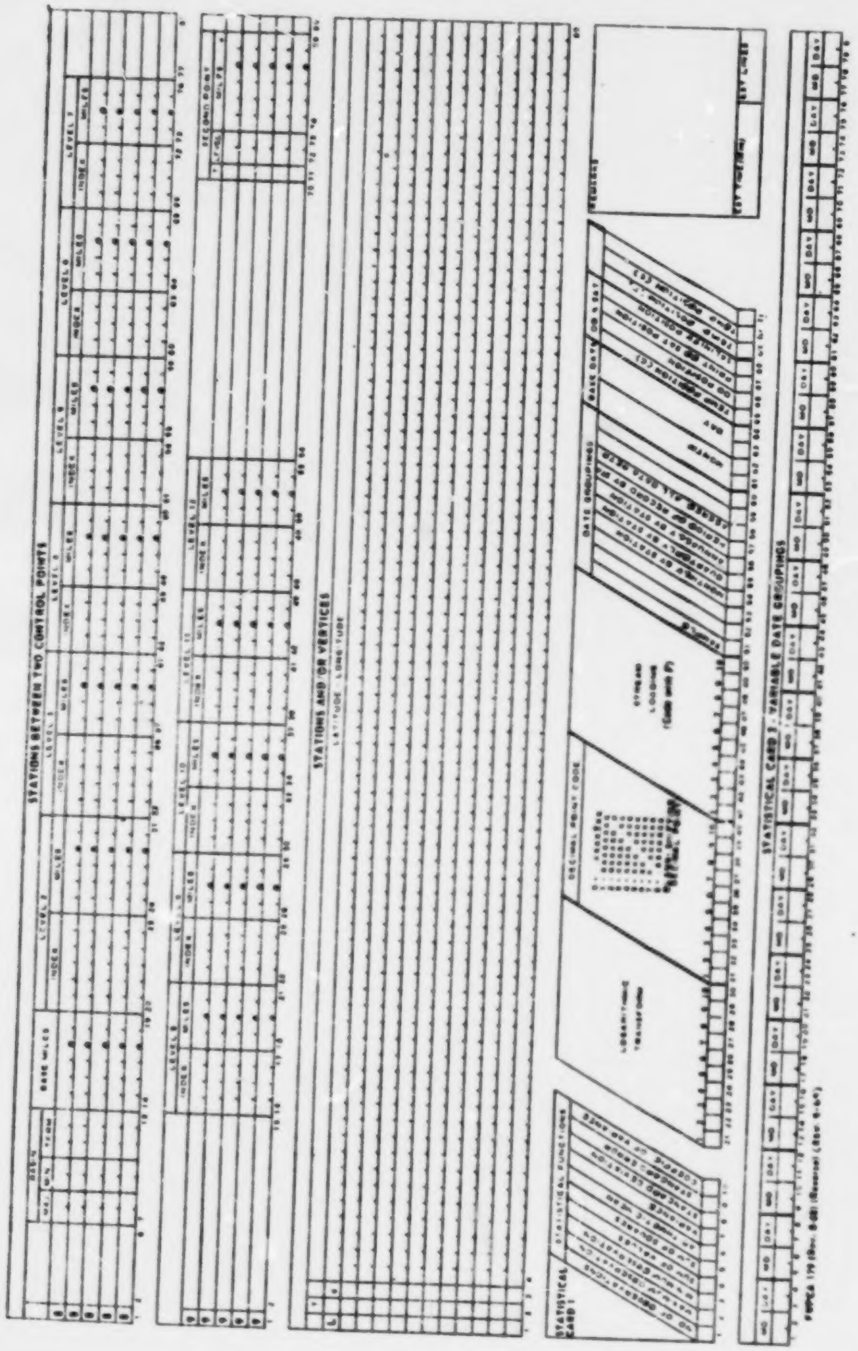

STATIONS BETWEEN TWO CONTROL POINTS
STATIONS AND/OR VERTICES
STATISTICAL CARD 1
STATISTICAL CARD 2 : VARIABLE DATE GROUPINGS

Figure 5. RETRIEVAL CODING FORM (CARDS 8-L)

TABLE 1. DECK SET-UP FOR RETRIEVAL

Card Type	Number of Cards	Remarks
A	1	Required unless storage is performed in the same run
0	No limit	Optional
1	1	Always required
3	1	Optional
5	1 to 5	Always required
6	No limit	Optional
7	No limit	Optional
8-9	No limit	If card 8 is used, card 9 must also be used (and vice versa)
L	Limit to 10 polygons and 190 vertices	Optional

D Parameter Control, Card 5

1 Code column 1 with a 5

2 Page number, Column 2

Values for all parameters indicated on the card will be printed on the indicated page. Only 10 parameters may be retrieved per page. Retrieval of more than 10 parameters will require several parameter control cards with sequential page numbers. This column should be coded with a 1 if subsequent statistical or stream loading analysis is performed.

3 Parameters retrieved, Columns 3-9, 10-16, etc.

a Columns 3, 10, 17, etc. are used to override the normal decimal point format. If a blank is coded in this column the conventional decimal point format for the indicated parameter will be used; otherwise decimal point format will adhere to the following codes:

Code	Decimal Output
0	.xxxE±xx
1	xxxxxxxx
2	xxxxxx.x
3	xxxxx.xx
4	xxxx.xxx
5	xxx.xxxx
6	xx.xxxxx
7	x.xxxxxx
8	.xxxxxxx

b Columns 4, 11, 18, etc. must be coded with a 1 if control card 3 is used. Otherwise, code these columns blank.

c Columns 5-9, 12-16, etc. contain the STORET parameter codes of parameters to be retrieved. Only 10 parameters may be retrieved per page. The order of the fields corresponds to the position in which parameters will be printed on the page.

E Stations Retrieved, Card 6

This card is used only to retrieve data according to station numbers or ranges of station numbers.

1 Code column 1 with a 6.

2 Agency code, Columns 2-9

This field contains the agency code which corresponds to the station numbers listed on the card. Any number of station retrieval (6) cards may be used and any number of agencies may be specified. This field must be completed each time a 6 card is used.

3 Sort field, Column 10

If column 10 is coded with a one (1) the station data records will be sorted in order of prime number before printing. If column 10 is coded blank station data records will be printed in the order listed on card (s) 6.

4 Range retrieval, Column 11

Codes in column 11 may be used to retrieve stations whose numbers fall within the ranges specified by columns 12-26 and 27-41, and 42-56 and 57-71. If a range retrieval is not desired, column 11 should be coded blank.

5 Specific station numbers, Column 12-26, 27-41, etc.

These fields contain the specific numbers of stations to be retrieved or serve as the limits of range retrieval. Prime and/or secondary numbers may be used. Only four station numbers may be indicated on each station retrieval (6) card. Station numbers should be left justified.

F Stations Above Control Point, Card 7

This card is used only to perform hydrologic retrieval of stations located above a control point.

1 Column 1 is coded with a 7.

2 Columns 3-60 are completed with the major and minor basin codes, terminal stream number, and level indexes of the control point. The level on which the control point is located is indicated by leaving the next index blank.

a If the minor basin field (columns 7-8) is left blank all stations within the major basin will be retrieved.

b If the terminal stream number is left blank all stations in the indicated minor basin will be retrieved.

3 Columns 61-66 are completed with the mileage on the last level.

4 Columns 67-80 are not used and may be left blank.

G Stations Below or Between Control Points, Cards 8 and 9

Cards 8 and 9 are used to retrieve stations located below or between control points.

1 Columns 7-76 of card 8 and 14-53 of card 9 contain the hydrologic index of the upper control point.

2 Columns 72-79 of card 9 contain the level and last level mileage of the lower control point. The same major basin, minor basin, and terminal stream number as indicated on card 8 will be assumed. Should a lower control point not be desired, columns 72-79 may be left blank.

3 Retrieval type, Column 71 of card 9

The code in this column control retrieval as follows:

a Main stream stations below a control point--code 2. A lower control point is not required.

b Main and tributary stream stations below a control point -- code 4. A lower control point is not required.

c Main stream stations between control points -- code 2. A lower control point is required.

H Geographical Retrieval

Geographical retrieval is accomplished using card L. Any number of cards may be used; code L is required in column 1 of the first card only.

1 Code column 1 with an L.

2 The order in which stations are printed may be controlled as shown in Table 2. Table 2 also indicates the order in which stations of Figure 3 will be printed with each retrieval type.

3 Column 3 is always coded with a comma.

4 Vertices of Polygons

The area within which data is to be retrieved is defined by coding the latitude and longitude of vertices of one or more polygons in columns 4-80. For each vertex latitude values must precede longitude values. Each latitude value must be separated from its corresponding longitude value by a comma. Each polygon is separated by two commas.

a Latitude and longitude values are coded only to the degree of precision required by entering degrees; degrees and minutes; degrees, minutes, and seconds; or degrees, minutes, seconds, and tenths of seconds. Trailing zeros may be omitted. Leading zeros are required for all latitude or longitude values less than 20 degrees but are not required for values equal to or greater than 20 degrees. As an example, to retrieve data within a polygon with vertices at lat. 30 15', long. 76 10'; lat. 19 05', long. 77 05'; and lat. 39 30' 05", long. 76 40' 15" the coding beginning in column 4 of card L would be:

3015, 761, 01905, 7705, 393005,

764015,,

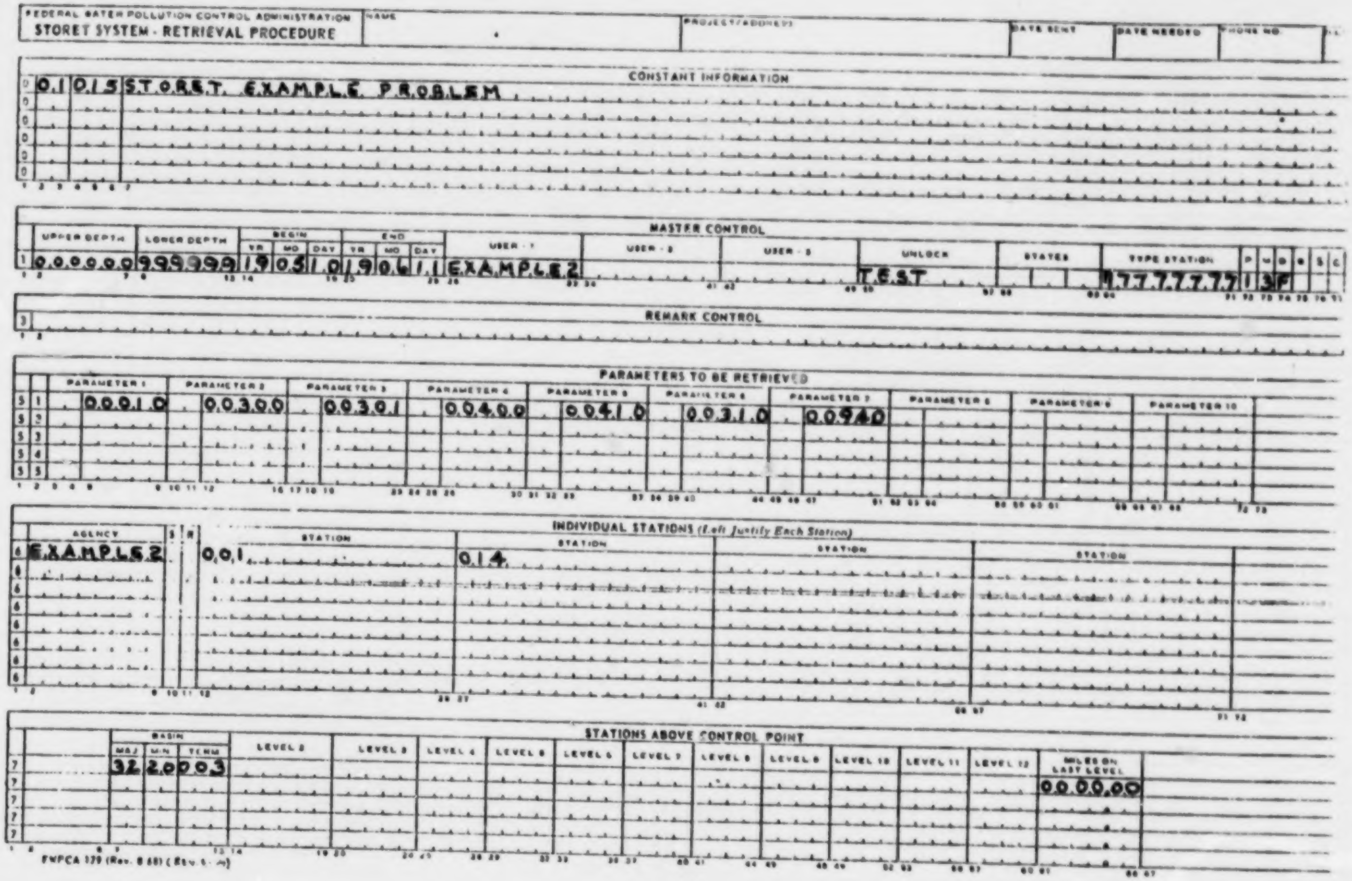
b When the number of polygons and vertices to be coded exceeds the space available on one card, coding may continue on a second card beginning in column 1.

IV TYPICAL PROBLEM RETRIEVAL

Card selection and coding to retrieve all stations of the Typical STORET Problem are shown in Figures 6 and 7. The heading STORET Example Problem is printed at the top of each output sheet. Data collected by agency Example 2 at all type stations on or between May 10, 1919 and June 11, 1919 were requested. Descriptive paragraphs were printed and data was retrieved in format suitable for subsequent analysis. Parameters 00010 (Water Temperature, C), 00300 (Dissolved Oxygen, mg/l), 00301 (Dissolved Oxygen, % saturation), 00400 (pH, standard units), 00410 (Total Alkalinity, mg/l $CaCO_3$), 00310 (Biochemical oxygen demand, 5-day, mg/l), and 00940 (Chlorides, mg/l) were retrieved. Parameter 00301 (Dissolved Oxygen, % saturation) was retrieved to provide a heading and printout position for values calculated from the dissolved oxygen and temperature data. Stations 001 and 014 were retrieved by specific secondary station numbers. All stations located on the Rapid River system (004 to 012) were retrieved by coding card 7 to retrieve all stations above a control point located at the mouth of Rapid River. Stations 002, 003, and 013 were retrieved by coding card L to retrieve stations located at the vertices of a polygon drawn through the station locations.

TABLE 2. ORDER IN WHICH STATIONS ARE PRINTED DURING GEOGRAPHICAL RETRIEVAL

Column 2 Card L	Stations Included	Order of Printing	Figure 3 Order
0	Interior and Vertices	longitude, latitude--data from multiple polygons mixed	4, 5, 9, 7, 8, 10, 13, 11, 14, 1, 12 2
1	Interior and Vertices	latitude, longitude--data from multiple polygons mixed	14, 13, 12, 11, 9, 10, 8, 7, 5, 4, 2, 1
2	Interior and Vertices	longitude, latitude--data from multiple polygons separated	10, 13, 11, 14, 12, 4, 5, 9, 7, 8, 1, 2
3	Interior and Vertices	latitude, longitude--data from multiple polygons separated	14, 13, 12, 11, 10, 9, 8, 7, 5, 4, 2, 1
4	Interior and Vertices	distance from first coded vertex--data from multiple polygons separated	M and E coded first 12, 14, 13, 11, 10, 9, 8, 7, 5, 4, 1, 2
5	Interior and Vertices	distance from a reference point not one of the vertices and coded first--data from multiple polygons separated	J and A reference points 10, 11, 13, 14, 12, 2, 1, 5, 4, 7, 8, 9
6	Interior and Vertices	distance from a point mid-way between the first two vertices--data from multiple polygons separated	NO and EF first two vertices 12, 11, 10, 13, 14, 9, 8, 7, 5, 4, 1, 2
7	Vertices only	longitude, latitude--data from multiple polygons mixed	4, 9, 8
8	Vertices only	latitude, longitude--data from multiple polygons mixed	9, 8, 4
9	Vertices	order of listing vertices--data from multiple polygons separated	Vertices listed BCDEFGHI and KLMNO 4, 9, 8



FEDERAL WATER POLLUTION CONTROL ADMINISTRATION
STORET SYSTEM - RETRIEVAL PROCEDURE

NAME	PROJECT/ADDRESS	DATE SENT	DATE NEEDED	PHONE NO.

CONSTANT INFORMATION

0	0.1	0.1.5	S.T.O.R.E.T. E.X.A.M.P.L.E. P.R.O.B.L.E.M
0			
0			
0			
0			
0			

MASTER CONTROL

	UPPER DEPTH	LOWER DEPTH	BEGIN YR	BEGIN MO	BEGIN DAY	END YR	END MO	END DAY	USER - 1	USER - 2	USER - 3	UNLOCK	STATES	TYPE STATION	P	W	D		S	C
1	0.0.0.0.0.0	9.9.9.9.9.9	1.9	0.5	1.0	1.9	0.6	1.1	E.X.A.M.P.L.E.2			T.E.S.T		7.7.7.7.7.7.7.7	1	3	F			

REMARK CONTROL

3	

PARAMETERS TO BE RETRIEVED

		PARAMETER 1	PARAMETER 2	PARAMETER 3	PARAMETER 4	PARAMETER 5	PARAMETER 6	PARAMETER 7	PARAMETER 8	PARAMETER 9	PARAMETER 10
5	1	0.0.0.1.0	0.0.3.0.0	0.0.3.0.1	0.0.4.0.0	0.0.4.1.0	0.0.3.1.0	0.0.9.4.0			
5	2										
5	3										
5	4										
5	5										

INDIVIDUAL STATIONS (*Left Justify Each Station*)

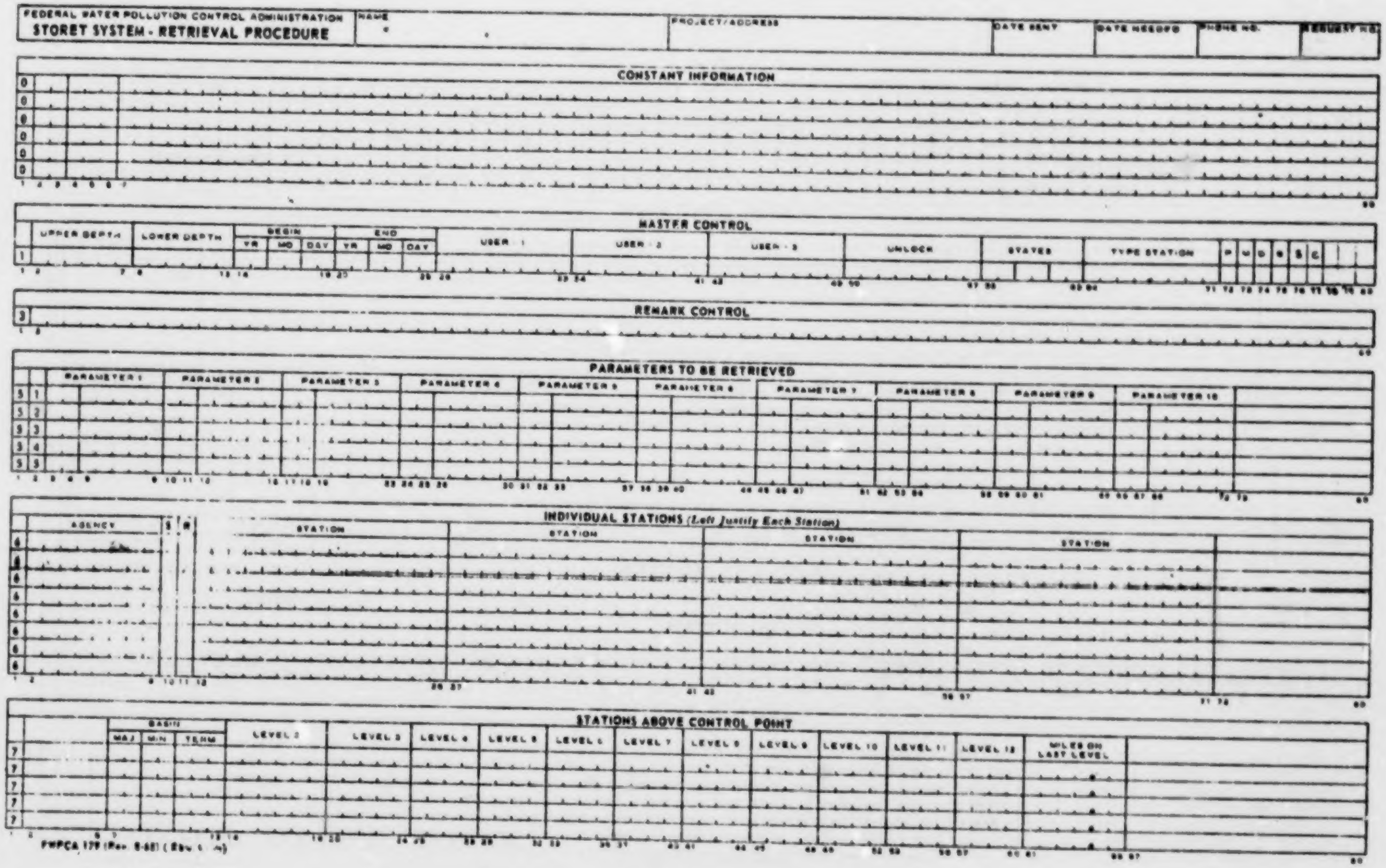
	AGENCY	S	R	STATION	STATION	STATION	STATION
6	E.X.A.M.P.L.E.2			0.0.1	0.1.4		
6							
6							
6							
6							
6							
6							
6							

STATIONS ABOVE CONTROL POINT

		BASIN MAJ	BASIN MIN	BASIN TERM	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5	LEVEL 6	LEVEL 7	LEVEL 8	LEVEL 9	LEVEL 10	LEVEL 11	LEVEL 12	MILES ON LAST LEVEL
7		3.2	2.0	0.0.3												0.0.0.0.0.0
7																
7																
7																
7																
7																

FWPCA 179 (Rev. 8 68) (Rev. 5 - 69)

Figure 6. TYPICAL STORET PROBLEM RETRIEVAL (CARDS 0-7)



FEDERAL WATER POLLUTION CONTROL ADMINISTRATION
STORET SYSTEM - RETRIEVAL PROCEDURE

NAME
PROJECT/ADDRESS
DATE SENT
DATE NEEDED
PHONE NO.
REQUEST NO.

CONSTANT INFORMATION

0
0
0
0
0
0

MASTER CONTROL

1
UPPER DEPTH
LOWER DEPTH
BEGIN: YR, MO, DAY
END: YR, MO, DAY
USER - 1
USER - 2
USER - 3
UNLOCK
STATES
TYPE STATION
P M D R S C

REMARK CONTROL

3

PARAMETERS TO BE RETRIEVED

5 1
5 2
5 3
5 4
5 5
PARAMETER 1
PARAMETER 2
PARAMETER 3
PARAMETER 4
PARAMETER 5
PARAMETER 6
PARAMETER 7
PARAMETER 8
PARAMETER 9
PARAMETER 10

INDIVIDUAL STATIONS *(Left Justify Each Station)*

6
6
6
6
6
6
6
6
AGENCY
S
R
STATION
STATION
STATION
STATION

STATIONS ABOVE CONTROL POINT

7
7
7
7
7
BASIN: MAJ, MIN, TERM
LEVEL 2
LEVEL 3
LEVEL 4
LEVEL 5
LEVEL 6
LEVEL 7
LEVEL 8
LEVEL 9
LEVEL 10
LEVEL 11
LEVEL 12
MILES ON LAST LEVEL

FWPCA 179 (Rev. 8-68)

Figure 7. TYPICAL STORET PROBLEM RETRIEVAL (CARDS 8-L)

V SUMMARY

STORET retrieves raw data in the format desired at maximum speed and minimum cost. The location of stations to be retrieved may be identified by specific station numbers, hydrologic index, or geographical coordinates. Control cards 0, 1, 3, 5, 6, 7, 8, 9, and/or L are required to retrieve raw data.

This outline was prepared by F.P. Nixon, Chief, Field Investigation Section, Edison Water Quality Laboratory, Water Quality Office, EPA, Edison, NJ 08817.

RETRIEVAL FOR ANALYSIS

Data retrieved by cards 0-L may also be subjected to statistical or other analysis. Up to 10 arithmetic or logarithmic statistical functions may be calculated for each of 10 parameters. Stream loading and percent dissolved oxygen saturation values may be calculated and temperature data may be converted to Fahrenheit or centigrade units.

Analysis is controlled by Statistical Cards 1 and 2, which follow card 0-L in the retrieval deck. The format of the statistical cards is shown in the composite retrieval coding form (Figure 1).

Typical statistical and analysis printouts are presented in Figures 2 and 5.

I STATISTICAL ANALYSIS

Four types of information must be specified to statistically analyze data:

A Functions Required, Columns 1-10

Up to 10 statistical functions may be calculated by coding a 1 in the appropriate column(s) of columns 1-10. Columns which correspond to unwanted functions may be left blank. All selected statistical functions will be calculated for each parameter retrieved (on retrieval card 5).

B Logarithmic Transform, Columns 21-30

It may be desirable to calculate and print statistical functions for certain data (particularly bacterial densities) in logarithmic (geometric) form.

1 A logarithmic transformation may be obtained for any parameter by coding 1 in the appropriate column between columns 21-30. The order of these columns is assumed to correspond to the order in which parameters are listed (and therefore printed) on retrieval card 5.

2 For example, all statistical functions for the parameter coded in position 4 of card 5 (and printed in position 4 on the printout) will be calculated in logarithmic form provided column 24 of the statistical control card is coded with a 1.

3 Columns corresponding to parameters for which no logarithmic transformation is desired may be left blank.

C Decimal Point Code, Columns 31-40

1 Depending upon the magnitude of the stored parameter values it may be desirable to print values of statistical functions in a specified format. The format is selected by coding columns 31-40 as follows:

Code 0	.xxxE+xx
Code 1	xxxxxxxx
Code 2	xxxxxx.x
Code 3	xxxxx.xx
Code 4	xxxx.xxx
Code 5	xxx.xxxx
Code 6	xx.xxxxx
Code 7	x.xxxxxx
Code 8	.xxxxxxx
Blank	floating decimal point (eight digits including decimal point in location determined by computer)

2 The order of columns 31-40 corresponds to the order in which parameters were retrieved. Thus statistical functions for the parameter coded in position 3 of card 5 will be printed in position 3 but below raw parameter values on the printout.

3 For a single parameter, all statistical functions are printed in the same format. Different formats may be selected for each parameter. Since the decimal point code on statistical card 1 controls only the format of the statistical functions it is possible to print raw values and statistical functions in different formats.

4 Columns which correspond to a parameter for which statistical function formats need not be controlled may be left blank.

D Data Groupings, Columns 51-60

Columns 51-60 are used to arrange data in "groups" subject to statistical analysis. Code a 1 in appropriate columns or leave blank to omit unwanted groupings.

Column 51	data grouped by sample. This method allows printing of raw data and calculated per cent dissolved oxygen saturation and temperature values before statistical functions are printed.
Column 52-3	not used; leave blank
Column 54	data analyzed at monthly intervals
Column 55	data analyzed at quarterly intervals
Column 56	data analyzed at yearly intervals
Column 57	data analyzed for the period of record
Column 58	data analyzed for all stations, dates, and times collectively

If columns 54 and 56 were coded with a 1, data would be analyzed for each month of the year and also the entire year. If beginning and ending dates of retrieval (card 1) encompassed 18 months, 1 yearly and 18 monthly summaries would be printed.

E Base Date, Columns 61-64

The groups for which functions are calculated begin with the base date coded in columns 61-64. Values of statistical functions will be calculated for each interval specified in columns 51-60 until data are no longer available. Intervals will be arranged in the printout in order of ending date. If a base date of 1001 (beginning of a "water year") is specified and a yearly summary is requested, all data stored or between 1001 of the first calendar year and 0930 of the next calendar year will be analyzed.

F If desired, statistical functions may be calculated using specified date intervals of varying length. Up to 20 consecutive intervals within one year may be specified by coding the beginning month and day of the intervals in successive fields of Statistical Card 2. The first date is coded in columns 1-4, the second, in columns 5-8, etc. Dates must be arranged in order of magnitude.

G Typical Printout

A typical printout of a statistical retrieval is presented in Figure 2. This is a page from a printout for which monthly and quarterly analyses were requested for one station using a base date of 0101 and for which data covering the period 1/1/62 to 12/31/62 were retrieved. Sum of values, standard error, and coefficient of variance were omitted from the statistical functions. Since a separate logarithmic transform was requested for bacterial data, only 9 parameters could be analyzed. Decimal point formats were controlled for all parameters except 00515, Filtrate Residue, which is printed in floating decimal point format determined by the computer. The corresponding coding of retrieval card 5 and statistical card 1 are shown in Figures 3 and 4.

II TEMPERATURE CONVERSION AND CALCULATION OF PER CENT DISSOLVED OXYGEN

A Percent dissolved oxygen saturation may be calculated if centigrade water temperature, dissolved oxygen, and salinity data are contained in the system and if temperature, dissolved oxygen concentration, salinity, and per cent dissolved oxygen saturation parameters are retrieved. Parameter 00301 (Dissolved Oxygen, per cent saturation) is retrieved to provide a heading and printout position for calculated values.

B The DO% Sat field of statistical card 1 is coded to define the fields on card 5 which contain the data necessary for calculation:

1 Code each column using 1, 2, 3, . . . 9 or zero (0) to identify parameter locations on card 5. If no correction for salinity is required, column 68 may be coded blank. The position in which the calculated per cent saturation values are printed is controlled by the position of parameter 00301 on card 5.

2 If the temperature is in Fahrenheit units (00011) instead of centigrade, retrieve parameters 00011, 00010, 00300, and 00301 and code column 69 with the position of Fahrenheit temperature and column 70 with the desired position of calculated centigrade temperature. STORET will then convert Fahrenheit temperature to centigrade,

place the value in the centigrade position, and use the converted value to calculate per cent saturation.

C Only retrieval of appropriate parameters and completion of columns 65-70 is required for per cent saturation calculation.

D Decimal point format will be the same as the STORET standard for parameter 00301 (Dissolved Oxygen, per cent saturation).

III CALCULATING STREAM LOADING

A Stream loading may be calculated for any parameter retrieved provided a flow parameter is also retrieved and provided flow data is available for the original sample. If a time entry was stored with the original sample, the flow value is recognized as an instantaneous reading; otherwise it is assumed to represent average daily flow.

B Loadings will be printed in the following units:

1 If original units were mg/l or g/l-- pounds per day

2 If original units were pc/l -- microcuries per day

3 If original units were organisms/100ml -- total organisms per day

C Parameters for which loadings are calculated are indicated by coding 1 in columns 41-50. The order of these columns corresponds to the order in which parameters were retrieved.

D An F, M, or G must be coded in the position which corresponds to the flow parameter.

1 F is used if flow was stored as cubic feet per second (parameter 00060).

2 M is used if flow was stored as million gallons per day (parameter 50050).

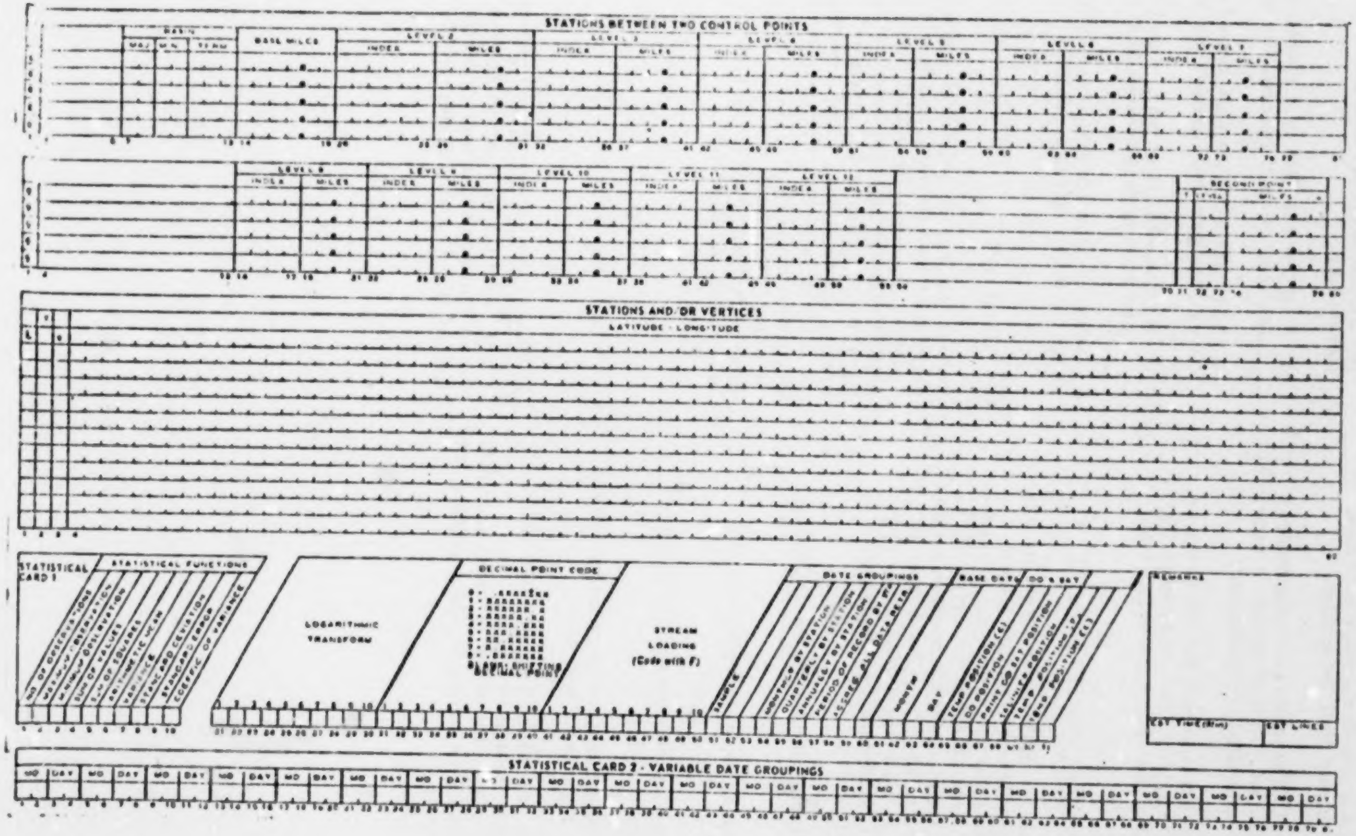
3 G is used if flow was stored as gallons per minute (parameter 50051).

E Decimal point format is controlled by the codes in columns 31-40.

IV SUMMARY

Stored data for up to 10 water quality parameters may be retrieved and statistically analyzed to calculate values for 1 to 10 statistical functions for each parameter. Data may be grouped in fixed or variable arrays for analysis. Supplementary programs are available to calculate per cent dissolved oxygen saturation, convert temperature units, or calculate stream loadings. Statistical and supplementary analysis is controlled using statistical cards 1 and 2.

This outline was prepared by F. P. Nixon, Chief, Field Investigation Section, Edison Water Quality Laboratory, Water Quality Office, EPA, Edison, NJ 08817



STATIONS BETWEEN TWO CONTROL POINTS

BASIN: MAJ | MIN | TERM

BASE MILES

LEVEL 2: INDEX | MILES

LEVEL 3: INDEX | MILES

LEVEL 4: INDEX | MILES

LEVEL 5: INDEX | MILES

LEVEL 6: INDEX | MILES

LEVEL 7: INDEX | MILES

LEVEL 8: INDEX | MILES

LEVEL 9: INDEX | MILES

LEVEL 10: INDEX | MILES

LEVEL 11: INDEX | MILES

LEVEL 12: INDEX | MILES

SECOND POINT: LEVEL | MILES

STATIONS AND/OR VERTICES

LATITUDE - LONGITUDE

STATISTICAL CARD 1

STATISTICAL FUNCTIONS

NO. OF OBSERVATIONS
MAXIMUM OBSERVATION
MINIMUM OBSERVATION
SUM OF VALUES
SUM OF SQUARES
ARITHMETIC MEAN
VARIANCE
STANDARD DEVIATION
STANDARD ERROR
COEFFIC. OF VARIANCE

LOGARITHMIC TRANSFORM

DECIMAL POINT CODE

BLANK: SHIFTING DECIMAL POINT

STREAM LOADING (Code with F)

SAMPLE

DATE GROUPINGS

MONTHLY BY STATION
QUARTERLY BY STATION
ANNUALLY BY STATION
PERIOD OF RECORD BY STA.
ASSESS ALL DATA BY YR

BASE DATE: MONTH | DAY

DO & SAT

TEMP POSITION (C)
DO POSITION
PRINT DO SAT POSITION
SALINITY POSITION
TEMP POSITION (F)
TEMP POSITION (C)

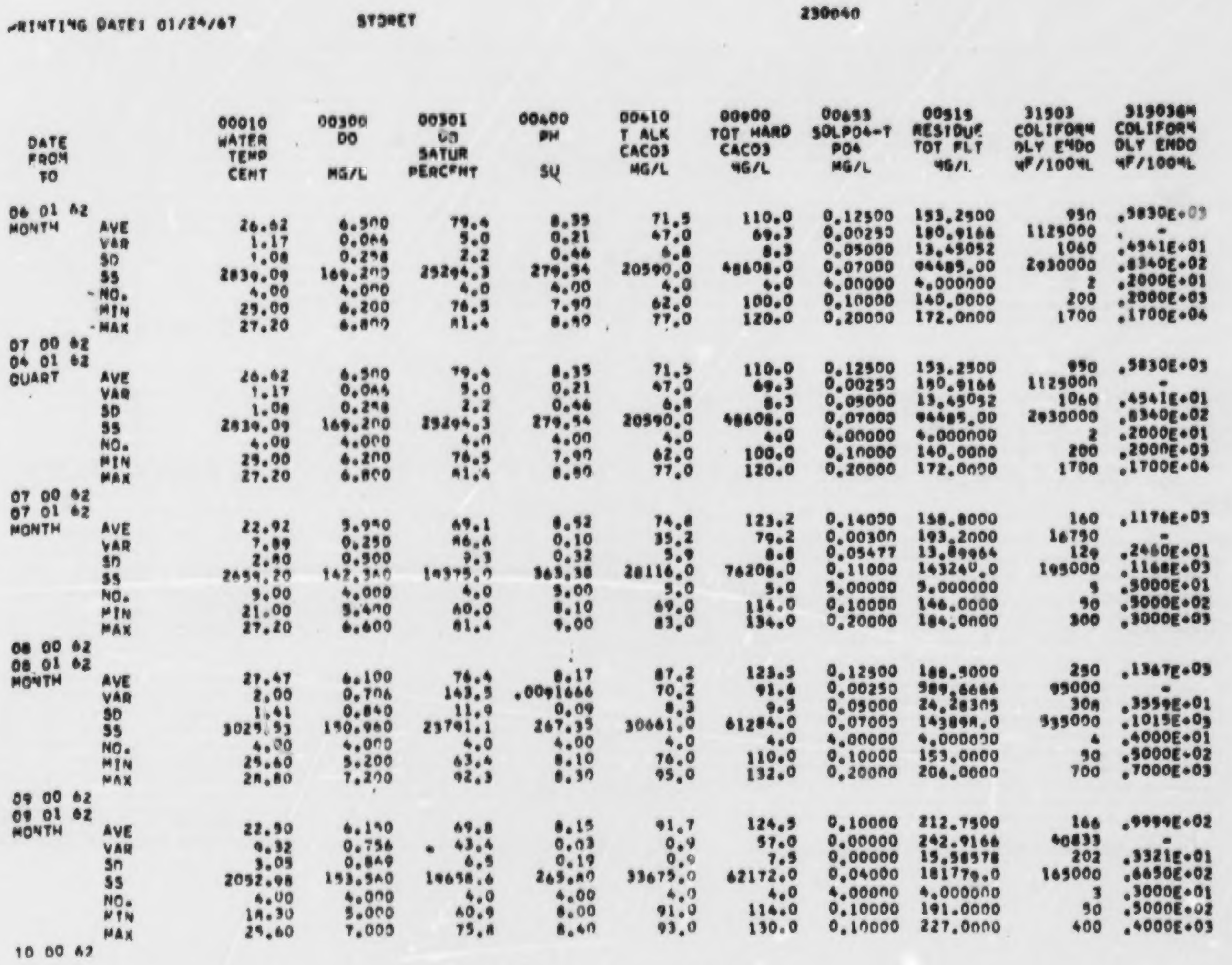
REMARKS

EST TIME (Min) | EST LINES

STATISTICAL CARD 2 - VARIABLE DATE GROUPINGS

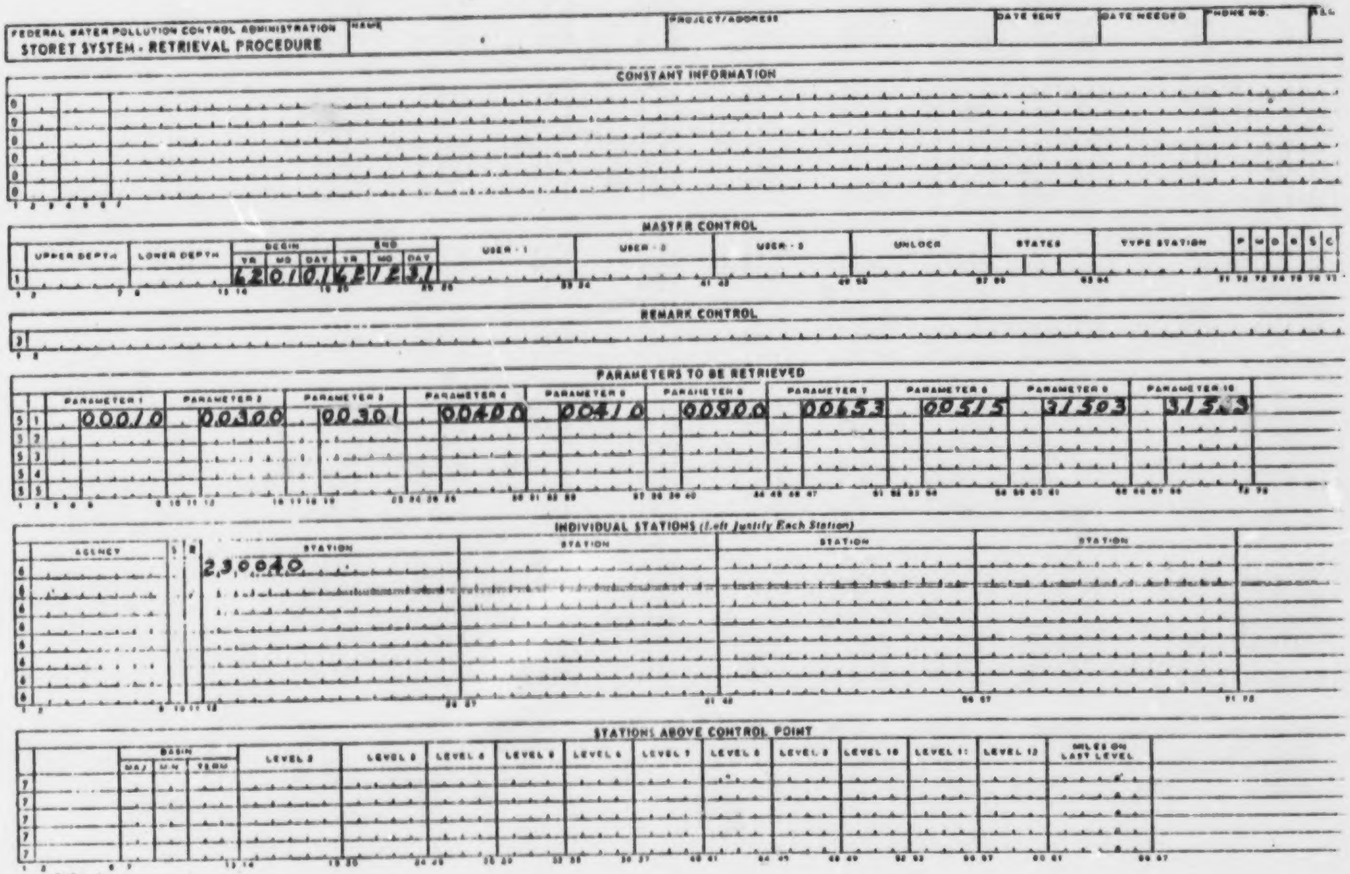
MO | DAY

FIGURE 1 STATISTICAL RETRIEVAL CODING FORM



```
PRINTING DATE: 01/24/67          STORET                                   230040

                     00010     00300     00301     00400     00410     00900     00653      00515       31503      319036M
 DATE                WATER     DO        DO        PH        T ALK     TOT HARD  SOLPO4-T   RESIDUE     COLIFORM   COLIFORM
 FROM                TEMP                SATUR               CACO3     CACO3     PO4        TOT FLT     DLY ENDO   DLY ENDO
  TO                 CENT      MG/L      PERCENT   SU        MG/L      MG/L      MG/L       MG/L        MF/100ML   MF/100ML

06 01 62
MONTH      AVE        26.62     6.500      79.4      8.35      71.5     110.0    0.12500   153.2500        950   .5830E+03
           VAR         1.17     0.066       5.0      0.21      47.0      69.3    0.00250   180.9166    1125000       -
           SD          1.08     0.258       2.2      0.46       6.8       8.3    0.05000   13.45052       1060   .4541E+01
           SS       2839.09   169.200   25294.3    279.54   20590.0   48608.0    0.07000   94485.00    2030000   .8340E+02
           NO.         4.00     4.000       4.0      4.00       4.0       4.0    4.00000   4.000000          2   .2000E+01
           MIN        25.00     6.200      76.5      7.90      62.0     100.0    0.10000   140.0000        200   .2000E+03
           MAX        27.20     6.800      81.4      8.50      77.0     120.0    0.20000   172.0000       1700   .1700E+04
07 00 62
04 01 62
QUART      AVE        26.62     6.500      79.4      8.35      71.5     110.0    0.12500   153.2500        950   .5830E+03
           VAR         1.17     0.066       5.0      0.21      47.0      69.3    0.00250   180.9166    1125000       -
           SD          1.08     0.258       2.2      0.46       6.8       8.3    0.05000   13.45052       1060   .4541E+01
           SS       2839.09   169.200   25294.3    279.54   20590.0   48608.0    0.07000   94485.00    2030000   .8340E+02
           NO.         4.00     4.000       4.0      4.00       4.0       4.0    4.00000   4.000000          2   .2000E+01
           MIN        25.00     6.200      76.5      7.90      62.0     100.0    0.10000   140.0000        200   .2000E+03
           MAX        27.20     6.800      81.4      8.50      77.0     120.0    0.20000   172.0000       1700   .1700E+04
07 00 62
07 01 62
MONTH      AVE        22.92     5.950      69.1      8.52      74.8     123.2    0.14000   158.8000        160   .1176E+03
           VAR         7.89     0.250      86.6      0.10      35.2      79.2    0.00300   193.2000      16750       -
           SD          2.80     0.500       9.3      0.32       5.9       8.8    0.05477   13.89964        129   .2460E+01
           SS       2659.20   142.380   19375.0    363.38   28116.0   76208.0    0.11000   143240.0     195000   .1168E+03
           NO.         5.00     4.000       4.0      5.00       5.0       5.0    5.00000   5.000000          5   .5000E+01
           MIN        21.00     5.400      60.0      8.10      69.0     114.0    0.10000   146.0000         50   .5000E+02
           MAX        27.20     6.600      81.4      9.00      83.0     134.0    0.20000   184.0000        300   .3000E+03
08 00 62
08 01 62
MONTH      AVE        27.47     6.100      76.4      8.17      87.2     123.5    0.12500   188.5000        250   .1367E+03
           VAR         2.00     0.706     143.5  .0091666      70.2      91.6    0.00250   589.6666      95000       -
           SD          1.41     0.840      11.9      0.09       8.3       9.5    0.05000   24.28305        308   .3559E+01
           SS       3029.53   150.960   23791.1    267.35   30661.0   61284.0    0.07000   143898.0     535000   .1015E+03
           NO.         4.00     4.000       4.0      4.00       4.0       4.0    4.00000   4.000000          4   .4000E+01
           MIN        25.60     5.200      63.4      8.10      76.0     110.0    0.10000   153.0000         50   .5000E+02
           MAX        28.80     7.200      92.3      8.30      95.0     132.0    0.20000   206.0000        700   .7000E+03
09 00 62
09 01 62
MONTH      AVE        22.50     6.150      69.8      8.15      91.7     124.5    0.10000   212.7500        166   .9999E+02
           VAR         9.32     0.756      43.4      0.03       0.9      57.0    0.00000   242.9166      40833       -
           SD          3.05     0.869       6.5      0.19       0.9       7.5    0.00000   15.58578        202   .3321E+01
           SS       2052.98   153.560   19658.6    265.80   33675.0   62172.0    0.04000   181779.0     165000   .6650E+02
           NO.         4.00     4.000       4.0      4.00       4.0       4.0    4.00000   4.000000          3   .3000E+01
           MIN        18.30     5.000      60.9      8.00      91.0     114.0    0.10000   191.0000         50   .5000E+02
           MAX        25.60     7.000      75.8      8.40      93.0     130.0    0.10000   227.0000        400   .4000E+03
10 00 62
```

FIGURE 2 STATISTICAL RETRIEVAL PRINTOUT



FEDERAL WATER POLLUTION CONTROL ADMINISTRATION
STORET SYSTEM - RETRIEVAL PROCEDURE

NAME	PROJECT/ADDRESS	DATE SENT	DATE NEEDED	PHONE NO.

CONSTANT INFORMATION

0
0
0
0
0
0

MASTER CONTROL

	UPPER DEPTH	LOWER DEPTH	BEGIN YR	BEGIN MO	BEGIN DAY	END YR	END MO	END DAY	USER - 1	USER - 2	USER - 3	UNLOCK	STATES	TYPE STATION	P	W	O	B	S	C
1			62	01	01	62	12	31												

REMARK CONTROL

2

PARAMETERS TO BE RETRIEVED

		PARAMETER 1	PARAMETER 2	PARAMETER 3	PARAMETER 4	PARAMETER 5	PARAMETER 6	PARAMETER 7	PARAMETER 8	PARAMETER 9	PARAMETER 10
5	1	00010	00300	00301	00400	00410	00900	00653	00515	31503	315[illegible]3
5	2										
5	3										
5	4										
5	5										

INDIVIDUAL STATIONS (*Left Justify Each Station*)

	AGENCY	S	R	STATION	STATION	STATION	STATION
6				230040			
6							
6							
6							
6							
6							
6							
6							

STATIONS ABOVE CONTROL POINT

		BASIN MAJ	BASIN MIN	BASIN TERM	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5	LEVEL 6	LEVEL 7	LEVEL 8	LEVEL 9	LEVEL 10	LEVEL 11	LEVEL 12	MILES ON LAST LEVEL
7																
7																
7																
7																
7																

FIGURE 3 CARD 5 CODING FOR STATISTICAL RETRIEVAL

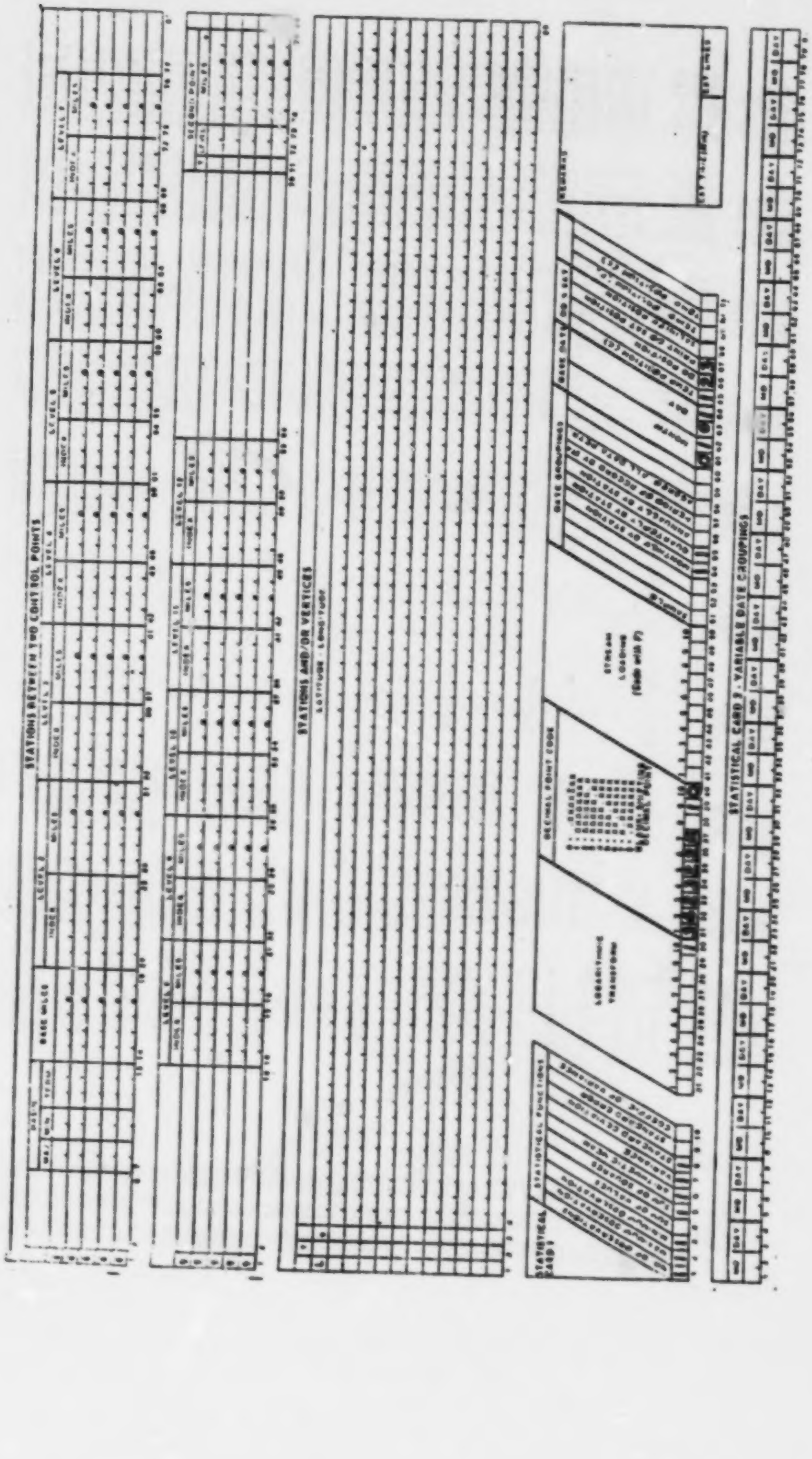


FIGURE 4 STATISTICAL CARD CODING FOR STATISTICAL RETRIEVAL

```
PRINTING DATE: 01/24/67          STONEY                                    [illegible]


  DATE    TIME      31503     03503     03505     01503     01505     00335     00940     00610     00900     00515
  FROM     OF     COLIFORM    BETA      BETA      ALPHA     ALPHA      COD     CHLORIDE  AMMONIA   TOT HARD   RESIDUE
   TO     DAY     DLY ENDO  DISOLVED    SUSP    DISOLVED    SUSP    LOWLEVEL     CL      NH3-N     CACO3     TOT FLT
                  MF-NO./D    UC/D      UC/D      UC/D      UC/D      LB/D      LB/D      LB/D      LB/D      LB/D

08 14 61              -         -         -         -         -      247574    165049  1379.411   1705510   2489495
08 21 61         .9981E+13      -         -         -         -      192557    192557  1375.411   1815543   2695807
08 28 61         .3070E+13    12281     30704   12281.6          0   270767    162460  2707.673   1709834   2463982
09 05 61         .2104E+13        0         0       -         -         -         -         -         -         -
09 09 61              -         -         -         -         -      741859    342396  2893.305   3364900   4308491
09 11 61         .4004E+15        0     25028       -         -      294284    165536  3678.552   1802490   2409451
09 18 61              -       51670     10789       -         -      144984    113916  1035.604   1449845   1946935
09 25 61         .2299E+13    18347      9198       -         -      141964    111543  1016.029   1419640   1622446
10 02 61              -       26373         0       -         -      141280    116289  .0000000   1162897   1644660
10 09 61         .4292E+13    50291         0    3869.5          0   136394     93743  .0000000   1193102   1636296
10 17 61              -         -         -         -         -      157821    132902  .0000000   1179510   1819105
10 23 61         .2874E+14    97739     22907       -         -      164779    190130  .0000000   1749200   3270263
10 30 61         .3082E+14   115598     60359       -         -      254855    254855  .0000000   2446614   3669922
11 06 61         .9108E+13   208998     96442       -         -      153560    177185  .0000000   1653730   2870403
11 13 61         .6322E+13   213729     44926    8905.3       8905   294499    215966  .0000000   2473799   3337666
11 20 61         .1380E+13   159807    118118       -         -      229774    306366  .0000000   2022017   2987070
11 27 61         .4109E+14   670598    403017       -         -      296172    174518  1742.188   2020938   2700391
12 04 61              -      329401     64918       -         -      231069    264079  1690.494   2178652   2640790
12 11 61         .9008E+13   173728    154425       -         -      261155    184613  1418.562   1900873   2468297
12 18 61              -      587168    489306       -         -     1024816    701190  5393.772   5501647   7713093
12 27 61              -         -         -         -         -      566346    404532  4045.329   3236263   4045329
01 02 62              -         -         -         -         -         -      237325       -     2847911   3352229
01 08 62         .1064E+17  2633204   2016922       0.0      56025  4323108    988139  24703.47   6916973  14080981
01 15 62              -      271614    116406       -         -      855452    256635  4277.261   3079628   5645984
01 22 62         .1533E+15   242206    226059       -         -      605181    249192  7119.779   3275095   4805850
01 29 62         .1069E+14   408572     17761       -         -      626540    626540  3915.878   3645973   5638864
02 05 62              -           0     92478       -         -      320390    349516  2912.636   2796131   4310702
02 12 62         .2671E+13   240445    347309       0.0          0   412299    323949  2944.999   2886099   4446949
02 19 62         .3288E+13   279492    279492       -         -      579938    326215  3624.614   2972184   4639506
02 26 62         .1052E+17      -         -         -         -    10205016   3478982  46386.43  14379796  26904134
03 05 62         .2858E+16   535096    118901       -         -     2097098    786411  13106.86   8912668  19990376
03 12 62              -     1904382   5237050       0.0     204040      -     1499468       -     9596599  16494194
03 19 62              -     1448837    827907       -         -     3878661   1829252  22815.65  15514645  23900125
03 26 62         .7236E+16  1085527   1567983       -         -     5584172   2127303  26591.29  14891125  22336688
04 02 62              -      715611   1211034       -         -     2305837    485439  12135.98   8980630  12742780
04 09 62         .1383E+17  3597138  16048773       0.0     737874  7320427   1423416  20334.52  15047545  21961282
04 16 62         .2397E+16  1822178   1246753       -         -     3594409   1691486  21143.58  12686151  21143586
04 23 62         .3082E+15   328814    123305       -         -     1940461    453076  9061.536   7249229  10873844
04 30 62         .1247E+16   249546     74863       -         -     1100329    275082  .0000000   5281581   6932075
05 07 62         .7104E+15   226059         0       -         -     1139164    355988  7119.779   5611032   8330161
05 14 62              -      180334     60111       0.0          0   750974    309224  4417.499   4152449   6449548
```

FIGURE 5   TYPICAL STREAM LOADING PRINTOUT

APPENDICES

FIPS PUB **6**

FEDERAL INFORMATION PROCESSING STANDARDS PUBLICATION
NOVEMBER 1, 1968

COUNTIES OF THE STATES OF THE UNITED STATES

FEDERAL GENERAL
DATA STANDARD
REPRESENTATIONS AND CODES

U.S. Department of Commerce / National Bureau of Standards

Foreword

The Federal Information Processing Standards Publication Series of the National Bureau of Standards is the official publication within the Federal Government for information relating to standards which are adopted and promulgated under the provisions of Public Law 89-306 and Bureau of the Budget Circular A-86 titled, Standardization of data elements and codes in data systems. These publications collectively constitute the FEDERAL INFORMATION PROCESSING STANDARDS REGISTER.

The publications in this series are used to announce and maintain Federal Information Processing Standards. Also, these publications are issued to provide standards information of a general interest and a complete index of relevant standards publications and specifications.

Publications in this series which announce the adoption of standards provide necessary policy, administrative, and guidance information for their effective implementation and utilization. In most cases, a copy of the technical specifications of the standard are affixed to the announcing publication. When this is not possible, the source where copies of the standards specification can be obtained will be cited.

Suggestions for improvement which are gained by the use of Federal Information Processing Standards and Publications are welcomed. These should be addressed to the National Bureau of Standards, Center for Computer Sciences and Technology, Office for Information Processing Standards, Washington, D.C. 20234.

A. V. **Astin**, *Director*

For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Price 40 cents. Subscription service also available for all new FIPS publications and supplements for an indefinite period.

Federal Information
Processing Standards Publication 6

November 1, 1968

ANNOUNCING THE STANDARD FOR

COUNTIES OF THE STATES OF THE UNITED STATES

Federal Information Processing Standards Publications are issued by the National Bureau of Standards under the direction of the Bureau of the Budget in accordance with the provisions of Public Law 89-306 and Bureau of the Budget Circular No. A-86.

Name of Standard. Counties of the States of the United States

Category of Standard. Federal General Data Standard, Representations and Codes (FIPS 6).

Explanation. This standard provides identification and codes for representing the Counties of the 50 States or County equivalents thereof. Counties are considered to be the "first order subdivisions" of each State regardless of their local designations (i.e., parish, borough, district, etc.) The City of Washington, D.C. and the independent cities of the States of Maryland, Missouri and Virginia are identified as County equivalents.

Approving Authority. Bureau of the Budget.

Maintenance Agency. General Services Administration (Office of Administration)

Cross Index. None.

Applicability. This standard will be prescribed for the interchange of formatted machine sensible coded data between and among agencies. Use within agency data systems is encouraged when such use contributes to operational benefits, efficiency, or economy.

Implementation Schedule. This standard will become effective on January 1, 1970. Agencies may use this standard prior to that date by mutual agreement.

Specifications. Federal Information Processing Standard 6 (FIPS 6), Counties of the States of the United States, November 1, 1968 (affixed).

Qualifications. As contained in the standard.

Where to Obtain Copies of the Standard.

a. Copies of this publication are for sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Refer to Federal Information Processing Standarde Publication 6. (Price 40¢ a copy.)

b. This publication may be copied and locally reproduced to meet agency requirements.

c. In the future, the County Names and Codes as contained in the standard will be available in machine sensible form (cards and magnetic tapes). Details concerning this aspect will be announced in a future FIPS PUBLICATION.

Federal Information
Processing Standard 6
November 1, 1968

SPECIFICATIONS FOR

COUNTIES OF THE STATES OF THE UNITED STATES

1. Name of Standard. Counties of the States of the United States.

2. Category of Standard. Federal General Data Standard, Representations and Codes.

3. Explanation. This standard provides identification and codes for representing the Counties of the 50 States or County equivalents thereof. Counties are considered to be the "first order subdivisions" of each State regardless of their local designations (i.e., parish, borough, district, etc.). The City of Washington, D.C. and the independent Cities of the States of Maryland, Missouri, and Virginia are identified as County equivalents.

4. Specifications. The succeeding pages of this standard list by State (in alphabetical sequence) the names of the Counties (in alphabetical sequence) and their assigned codes.

5. Qualification. County codes are assigned uniquely within each State. In other words, Counties in different States will have the same code, i.e., Autauga County, Alabama and Aleutian Islands Div., Alaska are both coded 001. Accordingly, in data systems concerned with the identification of Counties in more than one State, the standard County code must be used in conjunction with the standard code for States of the United States, Federal Information Processing Standard 5, i.e., Autauga County, Alabama would be coded 01001 and Aleutian Islands Div., Alaska would be coded 02001. In data systems concerned with only one State, only the County codes (three characters) need be used.

Preceding page blank

STATE NAME: ALABAMA

STATE CODE: 01

COUNTY NAME	CODE	COUNTY NAME	CODE	COUNTY NAME	CODE
AUTAUGA	001	ELMORE	051	MONTGOMERY	101
BALDWIN	003	ESCAMBIA	053	MORGAN	103
BARBOUR	005	ETOWAH	055	PERRY	105
BIBB	007	FAYETTE	057	PICKENS	107
BLOUNT	009	FRANKLIN	059	PIKE	109
BULLOCK	011	GENEVA	061	RANDOLPH	111
BUTLER	013	GREENE	063	RUSSELL	113
CALHOUN	015	HALE	065	ST CLAIR	115
CHAMBERS	017	HENRY	067	SHELBY	117
CHEROKEE	019	HOUSTON	069	SUMTER	119
CHILTON	021	JACKSON	071	TALLADEGA	121
CHOCTAW	023	JEFFERSON	073	TALLAPOOSA	123
CLARKE	025	LAMAR	075	TUSCALOOSA	125
CLAY	027	LAUDERDALE	077	WALKER	127
CLEBURNE	029	LAWRENCE	079	WASHINGTON	129
COFFEE	031	LEE	081	WILCOX	131
COLBERT	033	LIMESTONE	083	WINSTON	133
CONECUH	035	LOWNDES	085		
COOSA	037	MACON	087		
COVINGTON	039	MADISON	089		
CRENSHAW	041	MARENGO	091		
CULLMAN	043	MARION	093		
DALE	045	MARSHALL	095		
DALLAS	047	MOBILE	097		
DE KALB	049	MONROE	099		

STATE NAME: ALASKA

STATE CODE: 02

ALEUTIAN ISLANDS DIVISION	001	GREATER SITKA BOROUGH	021	OUTER KETCHIKAN DIVISION	041
ANGOON DIVISION	003	KENAI PENINSULA BORO - NW	023	PRINCE OF WALES DIVISION	043
BARROW DIVISION	005	KENAI PENINSULA BORO - SE	025	SOUTHEAST FAIRBANKS DIV	045
BETHEL DIVISION	007	KOBUK DIVISION	027	UPPER YUKON DIVISION	047
BRISTOL BAY BOROUGH	009	KODIAK ISLAND BOROUGH	029	VALDEZ-CHITINA-WHITTIER DIV	049
BRISTOL BAY DIVISION	011	KUSKOKWIM DIVISION	031	WADE HAMPTON DIVISION	051
CORDOVA-MCCARTHY DIVISION	013	LYNN CANAL-ICY STRAITS DIV	033	WRANGELL-PETERSBURG DIV	053
GATEWAY BOROUGH	015	MATANUSKA-SUSITNA BOROUGH	035	YUKON-KOYUKUK DIVISION	055
GREATER ANCHORAGE AREA BORO	017	NOME DIVISION	037		
GREATER JUNEAU BOROUGH	019	NORTH STAR BOROUGH	039		

STATE NAME: **ARIZONA**

STATE CODE: **04**

COUNTY NAME	CODE	COUNTY NAME	CODE	COUNTY NAME	CODE
APACHE	001	GREENLEE	011	PINAL	021
COCHISE	003	MARICOPA	013	SANTA CRUZ	023
COCONINO	005	MOHAVE	015	YAVAPAI	025
GILA	007	NAVAJO	017	YUMA	027
GRAHAM	009	PIMA	019		

STATE NAME: **ARKANSAS**

STATE CODE: **05**

ARKANSAS	001	GARLAND	051	NEWTON	101
ASHLEY	003	GRANT	053	OUACHITA	103
BAXTER	005	GREENE	055	PERRY	105
BENTON	007	HEMPSTEAD	057	PHILLIPS	107
BOONE	009	HOT SPRING	059	PIKE	109
BRADLEY	011	HOWARD	061	POINSETT	111
CALHOUN	013	INDEPENDENCE	063	POLK	113
CARROLL	015	IZARD	065	POPE	115
CHICOT	017	JACKSON	067	PRAIRIE	117
CLARK	019	JEFFERSON	069	PULASKI	119
CLAY	021	JOHNSON	071	RANDOLPH	121
CLEBURNE	023	LAFAYETTE	073	ST FRANCIS	123
CLEVELAND	025	LAWRENCE	075	SALINE	125
COLUMBIA	027	LEE	077	SCOTT	127
CONWAY	029	LINCOLN	079	SEARCY	129
CRAIGHEAD	031	LITTLE RIVER	081	SEBASTIAN	131
CRAWFORD	033	LOGAN	083	SEVIER	133
CRITTENDEN	035	LONOKE	085	SHARP	135
CROSS	037	MADISON	087	STONE	137
DALLAS	039	MARION	089	UNION	139
DESHA	041	MILLER	091	VAN BUREN	141
DREW	043	MISSISSIPPI	093	WASHINGTON	143
FAULKNER	045	MONROE	095	WHITE	145
FRANKLIN	047	MONTGOMERY	097	WOODRUFF	147
FULTON	049	NEVADA	099	YELL	149

STATE NAME: **CALIFORNIA**

STATE CODE: **06**

COUNTY NAME	CODE	COUNTY NAME	CODE	COUNTY NAME	CODE
ALAMEDA	001	MARIN	041	SAN MATEO	081
ALPINE	003	MARIPOSA	043	SANTA BARBARA	083
AMADOR	005	MENDOCINO	045	SANTA CLARA	085
BUTTE	007	MERCED	047	SANTA CRUZ	087
CALAVERAS	009	MODOC	049	SHASTA	089
COLUSA	011	MONO	051	SIERRA	091
CONTRA COSTA	013	MONTEREY	053	SISKIYOU	093
DEL NORTE	015	NAPA	055	SOLANO	095
EL DORADO	017	NEVADA	057	SONOMA	097
FRESNO	019	ORANGE	059	STANISLAUS	099
GLENN	021	PLACER	061	SUTTER	101
HUMBOLDT	023	PLUMAS	063	TEHAMA	103
IMPERIAL	025	RIVERSIDE	065	TRINITY	105
INYO	027	SACRAMENTO	067	TULARE	107
KERN	029	SAN BENITO	069	TUOLUMNE	109
KINGS	031	SAN BERNARDINO	071	VENTURA	111
LAKE	033	SAN DIEGO	073	YOLO	113
LASSEN	035	SAN FRANCISCO	075	YUBA	115
LOS ANGELES	037	SAN JOAQUIN	077		
MADERA	039	SAN LUIS OBISPO	079		

STATE NAME: **COLORADO**

STATE CODE: **08**

ADAMS	001	FREMONT	043	MONTROSE	085
ALAMOSA	003	GARFIELD	045	MORGAN	087
ARAPAHOE	005	GILPIN	047	OTERO	089
ARCHULETA	007	GRAND	049	OURAY	091
BACA	009	GUNNISON	051	PARK	093
BENT	011	HINSDALE	053	PHILLIPS	095
BOULDER	013	HUERFANO	055	PITKIN	097
CHAFFEE	015	JACKSON	057	PROWERS	099
CHEYENNE	017	JEFFERSON	059	PUEBLO	101
CLEAR CREEK	019	KIOWA	061	RIO BLANCO	103
CONEJOS	021	KIT CARSON	063	RIO GRANDE	105
COSTILLA	023	LAKE	065	ROUTT	107
CROWLEY	025	LA PLATA	067	SAGUACHE	109
CUSTER	027	LARIMER	069	SAN JUAN	111
DELTA	029	LAS ANIMAS	071	SAN MIGUEL	113
DENVER	031	LINCOLN	073	SEDGWICK	115
DOLORES	033	LOGAN	075	SUMMIT	117
DOUGLAS	035	MESA	077	TELLER	119
EAGLE	037	MINERAL	079	WASHINGTON	121
ELBERT	039	MOFFAT	081	WELD	123
EL PASO	041	MONTEZUMA	083	YUMA	125

STATE NAME: CONNECTICUT
STATE CODE: 09

COUNTY NAME	CODE	COUNTY NAME	CODE
FAIRFIELD	001	NEW HAVEN	009
HARTFORD	003	NEW LONDON	011
LITCHFIELD	005	TOLLAND	013
MIDDLESEX	007	WINDHAM	015

STATE NAME: DELAWARE
STATE CODE: 10

COUNTY NAME	CODE
KENT	001
NEW CASTLE	003
SUSSEX	005

STATE NAME: DISTRICT OF COLUMBIA
STATE CODE: 11

INDEPENDENT CITY	CODE
WASHINGTON	001

STATE NAME: FLORIDA
STATE CODE: 12

COUNTY NAME	CODE	COUNTY NAME	CODE	COUNTY NAME	CODE
ALACHUA	001	GULF	045	OKALOOSA	091
BAKER	003	HAMILTON	047	OKEECHOBEE	093
BAY	005	HARDEE	049	ORANGE	095
BRADFORD	007	HENDRY	051	OSCEOLA	097
BREVARD	009	HERNANDO	053	PALM BEACH	099
BROWARD	011	HIGHLANDS	055	PASCO	101
CALHOUN	013	HILLSBOROUGH	057	PINELLAS	103
CHARLOTTE	015	HOLMES	059	POLK	105
CITRUS	017	INDIAN RIVER	061	PUTNAM	107
CLAY	019	JACKSON	063	ST JOHNS	109
COLLIER	021	JEFFERSON	065	ST LUCIE	111
COLUMBIA	023	LAFAYETTE	067	SANTA ROSA	113
DADE	025	LAKE	069	SARASOTA	115
DE SOTO	027	LEE	071	SEMINOLE	117
DIXIE	029	LEON	073	SUMTER	119
DUVAL	031	LEVY	075	SUWANNEE	121
ESCAMBIA	033	LIBERTY	077	TAYLOR	123
FLAGLER	035	MADISON	079	UNION	125
FRANKLIN	037	MANATEE	081	VOLUSIA	127
GADSDEN	039	MARION	083	WAKULLA	129
		MARTIN	085		
GILCHRIST	041	MONROE	087	WALTON	131
GLADES	043	NASSAU	089	WASHINGTON	133

GEORGIA

STATE NAME: **GEORGIA**

STATE CODE: **13**

COUNTY NAME	CODE	COUNTY NAME	CODE	COUNTY NAME	CODE
APPLING	001	EARLY	099	MADISON	195
ATKINSON	003	ECHOLS	101	MARION	197
BACON	005	EFFINGHAM	103	MERIWETHER	199
BAKER	007	ELBERT	105	MILLER	201
BALDWIN	009	EMANUEL	107	MITCHELL	205
BANKS	011	EVANS	109	MONROE	207
BARROW	013	FANNIN	111	MONTGOMERY	209
BARTOW	015	FAYETTE	113	MORGAN	211
BEN HILL	017	FLOYD	115	MURRAY	213
BERRIEN	019	FORSYTH	117	MUSCOGEE	215
BIBB	021	FRANKLIN	119	NEWTON	217
BLECKLEY	023	FULTON	121	OCONEE	219
BRANTLEY	025	GILMER	123	OGLETHORPE	221
BROOKS	027	GLASCOCK	125	PAULDING	223
BRYAN	029	GLYNN	127	PEACH	225
BULLOCH	031	GORDON	129	PICKENS	227
BURKE	033	GRADY	131	PIERCE	229
BUTTS	035	GREENE	133	PIKE	231
CALHOUN	037	GWINNETT	135	POLK	233
CAMDEN	039	HABERSHAM	137	PULASKI	235
CANDLER	043	HALL	139	PUTNAM	237
CARROLL	045	HANCOCK	141	QUITMAN	239
CATOOSA	047	HARALSON	143	RABUN	241
CHARLTON	049	HARRIS	145	RANDOLPH	243
CHATHAM	051	HART	147	RICHMOND	245
CHATTAHOOCHEE	053	HEARD	149	ROCKDALE	247
CHATTOOGA	055	HENRY	151	SCHLEY	249
CHEROKEE	057	HOUSTON	153	SCREVEN	251
CLARKE	059	IRWIN	155	SEMINOLE	253
CLAY	061	JACKSON	157	SPALDING	255
CLAYTON	063	JASPER	159	STEPHENS	257
CLINCH	065	JEFF DAVIS	161	STEWART	259
COBB	067	JEFFERSON	163	SUMTER	261
COFFEE	069	JENKINS	165	TALBOT	263
COLQUITT	071	JOHNSON	167	TALIAFERRO	265
COLUMBIA	073	JONES	169	TATTNALL	267
COOK	075	LAMAR	171	TAYLOR	269
COWETA	077	LANIER	173	TELFAIR	271
CRAWFORD	079	LAURENS	175	TERRELL	273
CRISP	081	LEE	177	THOMAS	275
DADE	083	LIBERTY	179	TIFT	277
DAWSON	085	LINCOLN	181	TOOMBS	279
DECATUR	087	LONG	183	TOWNS	281
DE KALB	089	LOWNDES	185	TREUTLEN	283
DODGE	091	LUMPKIN	187	TROUP	285
DOOLY	093	MCDUFFIE	189	TURNER	287
DOUGHERTY	095	MCINTOSH	191	TWIGGS	289
DOUGLAS	097	MACON	193	UNION	291

COUNTY NAME	CODE	COUNTY NAME	CODE	COUNTY NAME	CODE
UPSON	293	WASHINGTON	303	WHITFIELD	313
WALKER	295	WAYNE	305	WILCOX	315
WALTON	297	WEBSTER	307	WILKES	317
WARE	299	WHEELER	309	WILKINSON	319
WARREN	301	WHITE	311	WORTH	321

STATE NAME: **HAWAII**

STATE CODE: **15**

COUNTY NAME	CODE
HAWAII	001
HONOLULU	003
KAUAI	007
MAUI	009

STATE NAME: **IDAHO**

STATE CODE: **16**

COUNTY NAME	CODE	COUNTY NAME	CODE	COUNTY NAME	CODE
ADA	001	CASSIA	031	LEWIS	061
ADAMS	003	CLARK	033	LINCOLN	063
BANNOCK	005	CLEARWATER	035	MADISON	065
BEAR LAKE	007	CUSTER	037	MINIDOKA	067
BENEWAH	009	ELMORE	039	NEZ PERCE	069
BINGHAM	011	FRANKLIN	041	ONEIDA	071
BLAINE	013	FREMONT	043	OWYHEE	073
BOISE	015	GEM	045	PAYETTE	075
BONNER	017	GOODING	047	POWER	077
BONNEVILLE	019	IDAHO	049	SHOSHONE	079
BOUNDARY	021	JEFFERSON	051	TETON	081
BUTTE	023	JEROME	053	TWIN FALLS	083
CAMAS	025	KOOTENAI	055	VALLEY	085
CANYON	027	LATAH	057	WASHINGTON	087
CARIBOU	029	LEMHI	059		

STATE NAME: **ILLINOIS**

STATE CODE: **17**

ADAMS	001	CASS	017	CRAWFORD	033
ALEXANDER	003	CHAMPAIGN	019	CUMBERLAND	035
BOND	005	CHRISTIAN	021	DE KALB	037
BOONE	007	CLARK	023	DE WITT	039
BROWN	009	CLAY	025	DOUGLAS	041
BUREAU	011	CLINTON	027	DU PAGE	043
CALHOUN	013	COLES	029	EDGAR	045
CARROLL	015	COOK	031	EDWARDS	047

STATE NAME: **ILLINOIS – Con.**

STATE CODE: **17**

COUNTY NAME	CODE	COUNTY NAME	CODE	COUNTY NAME	CODE
EFFINGHAM	049	LAWRENCE	101	PULASKI	153
FAYETTE	051	LEE	103	PUTNAM	155
FORD	053	LIVINGSTON	105	RANDOLPH	157
FRANKLIN	055	LOGAN	107	RICHLAND	159
FULTON	057	MCDONOUGH	109	ROCK ISLAND	161
GALLATIN	059	MCHENRY	111	ST CLAIR	163
GREENE	061	MCLEAN	113	SALINE	165
GRUNDY	063	MACON	115	SANGAMON	167
HAMILTON	065	MACOUPIN	117	SCHUYLER	169
HANCOCK	067	MADISON	119	SCOTT	171
HARDIN	069	MARION	121	SHELBY	173
HENDERSON	071	MARSHALL	123	STARK	175
HENRY	073	MASON	125	STEPHENSON	177
IROQUOIS	075	MASSAC	127	TAZEWELL	179
JACKSON	077	MENARD	129	UNION	181
JASPER	079	MERCER	131	VERMILION	183
JEFFERSON	081	MONROE	133	WABASH	185
JERSEY	083	MONTGOMERY	135	WARREN	187
JO DAVIESS	085	MORGAN	137	WASHINGTON	189
JOHNSON	087	MOULTRIE	139	WAYNE	191
KANE	089	OGLE	141	WHITE	193
KANKAKEE	091	PEORIA	143	WHITESIDE	195
KENDALL	093	PERRY	145	WILL	197
KNOX	095	PIATT	147	WILLIAMSON	199
LAKE	097	PIKE	149	WINNEBAGO	201
LA SALLE	099	POPE	151	WOODFORD	203

STATE NAME: **INDIANA**

STATE CODE: **18**

ADAMS	001	DECATUR	031	HARRISON	061
ALLEN	003	DE KALB	033	HENDRICKS	063
BARTHOLOMEW	005	DELAWARE	035	HENRY	065
BENTON	007	DUBOIS	037	HOWARD	067
BLACKFORD	009	ELKHART	039	HUNTINGTON	069
BOONE	011	FAYETTE	041	JACKSON	071
BROWN	013	FLOYD	043	JASPER	073
CARROLL	015	FOUNTAIN	045	JAY	075
CASS	017	FRANKLIN	047	JEFFERSON	077
CLARK	019	FULTON	049	JENNINGS	079
CLAY	021	GIBSON	051	JOHNSON	081
CLINTON	023	GRANT	053	KNOX	083
CRAWFORD	025	GREENE	055	KOSCIUSKO	085
DAVIESS	027	HAMILTON	057	LAGRANGE	087
DEARBORN	029	HANCOCK	059	LAKE	089

COUNTY NAME	**CODE**	**COUNTY NAME**	**CODE**	**COUNTY NAME**	**CODE**
LA PORTE	091	PERRY	123	SWITZERLAND	155
LAWRENCE	093	PIKE	125	TIPPECANOE	157
MADISON	095	PORTER	127	TIPTON	159
MARION	097	POSEY	129	UNION	161
MARSHALL	099	PULASKI	131	VANDERBURGH	163
MARTIN	101	PUTNAM	133	VERMILLION	165
MIAMI	103	RANDOLPH	135	VIGO	167
MONROE	105	RIPLEY	137	WABASH	169
MONTGOMERY	107	RUSH	139	WARREN	171
MORGAN	109	ST JOSEPH	141	WARRICK	173
NEWTON	111	SCOTT	143	WASHINGTON	175
NOBLE	113	SHELBY	145	WAYNE	177
OHIO	115	SPENCER	147	WELLS	179
ORANGE	117	STARKE	149	WHITE	181
OWEN	119	STEUBEN	151	WHITLEY	183
PARKE	121	SULLIVAN	153		

STATE NAME: **IOWA**

STATE CODE: **19**

ADAIR	001	DUBUQUE	061	MADISON	121
ADAMS	003	EMMET	063	MAHASKA	123
ALLAMAKEE	005	FAYETTE	065	MARION	125
APPANOOSE	007	FLOYD	067	MARSHALL	127
AUDUBON	009	FRANKLIN	069	MILLS	129
BENTON	011	FREMONT	071		
BLACK HAWK	013	GREENE	073	MITCHELL	131
BOONE	015	GRUNDY	075	MONONA	133
BREMER	017	GUTHRIE	077	MONROE	135
BUCHANAN	019	HAMILTON	079	MONTGOMERY	137
				MUSCATINE	139
BUENA VISTA	021	HANCOCK	081		
BUTLER	023	HARDIN	083		
CALHOUN	025	HARRISON	085		
CARROLL	027	HENRY	087	O BRIEN	141
CASS	029	HOWARD	089	OSCEOLA	143
				PAGE	145
CEDAR	031	HUMBOLDT	091	PALO ALTO	147
CERRO GORDO	033	IDA	093	PLYMOUTH	149
CHEROKEE	035	IOWA	095		
CHICKASAW	037	JACKSON	097		
CLARKE	039	JASPER	099	POCAHONTAS	151
CLAY	041	JEFFERSON	101	POLK	153
CLAYTON	043	JOHNSON	103	POTTAWATTAMIE	155
CLINTON	045	JONES	105	POWESHIEK	157
CRAWFORD	047	KEOKUK	107	RINGGOLD	159
DALLAS	049	KOSSUTH	109		
DAVIS	051	LEE	111	SAC	161
DECATUR	053	LINN	113	SCOTT	163
DELAWARE	055	LOUISA	115	SHELBY	165
DES MOINES	057	LUCAS	117	SIOUX	167
DICKINSON	059	LYON	119	STORY	169

STATE NAME: **IOWA—Con.**

STATE CODE: **19**

COUNTY NAME	CODE	COUNTY NAME	CODE	COUNTY NAME	CODE
TAMA	171	WARREN	181	WINNESHIEK	191
TAYLOR	173	WASHINGTON	183	WOODBURY	193
UNION	175	WAYNE	185	WORTH	195
VAN BUREN	177	WEBSTER	187	WRIGHT	197
WAPELLO	179	WINNEBAGO	189		

STATE NAME: **KANSAS**

STATE CODE: **20**

ALLEN	001	GREELEY	071	OSBORNE	141
ANDERSON	003	GREENWOOD	073	OTTAWA	143
ATCHISON	005	HAMILTON	075	PAWNEE	145
BARBER	007	HARPER	077	PHILLIPS	147
BARTON	009	HARVEY	079	POTTAWATOMIE	149
BOURBON	011	HASKELL	081	PRATT	151
BROWN	013	HODGEMAN	083	RAWLINS	153
BUTLER	015	JACKSON	085	RENO	155
CHASE	017	JEFFERSON	087	REPUBLIC	157
CHAUTAUQUA	019	JEWELL	089	RICE	159
CHEROKEE	021	JOHNSON	091	RILEY	161
CHEYENNE	023	KEARNY	093	ROOKS	163
CLARK	025	KINGMAN	095	RUSH	165
CLAY	027	KIOWA	097	RUSSELL	167
CLOUD	029	LABETTE	099	SALINE	169
COFFEY	031	LANE	101	SCOTT	171
COMANCHE	033	LEAVENWORTH	103	SEDGWICK	173
COWLEY	035	LINCOLN	105	SEWARD	175
CRAWFORD	037	LINN	107	SHAWNEE	177
DECATUR	039	LOGAN	109	SHERIDAN	179
DICKINSON	041	LYON	111	SHERMAN	181
DONIPHAN	043	MCPHERSON	113	SMITH	183
DOUGLAS	045	MARION	115	STAFFORD	185
EDWARDS	047	MARSHALL	117	STANTON	187
ELK	049	MEADE	119	STEVENS	189
ELLIS	051	MIAMI	121	SUMNER	191
ELLSWORTH	053	MITCHELL	123	THOMAS	193
FINNEY	055	MONTGOMERY	125	TREGO	195
FORD	057	MORRIS	127	WABAUNSEE	197
FRANKLIN	059	MORTON	129	WALLACE	199
GEARY	061	NEMAHA	131	WASHINGTON	201
GOVE	063	NEOSHO	133	WICHITA	203
GRAHAM	065	NESS	135	WILSON	205
GRANT	067	NORTON	137	WOODSON	207
GRAY	069	OSAGE	139	WYANDOTTE	209

STATE NAME: KENTUCKY

STATE CODE: 21

COUNTY NAME	CODE	COUNTY NAME	CODE	COUNTY NAME	CODE
ADAIR	001	GRANT	081	MASON	161
ALLEN	003	GRAVES	083	MEADE	163
ANDERSON	005	GRAYSON	085	MENIFEE	165
BALLARD	007	GREEN	087	MERCER	167
BARREN	009	GREENUP	089	METCALFE	169
BATH	011	HANCOCK	091	MONROE	171
BELL	013	HARDIN	093	MONTGOMERY	173
BOONE	015	HARLAN	095	MORGAN	175
BOURBON	017	HARRISON	097	MUHLENBERG	177
BOYD	019	HART	099	NELSON	179
BOYLE	021	HENDERSON	101	NICHOLAS	181
BRACKEN	023	HENRY	103	OHIO	183
BREATHITT	025	HICKMAN	105	OLDHAM	185
BRECKINRIDGE	027	HOPKINS	107	OWEN	187
BULLITT	029	JACKSON	109	OWSLEY	189
BUTLER	031	JEFFERSON	111	PENDLETON	191
CALDWELL	033	JESSAMINE	113	PERRY	193
CALLOWAY	035	JOHNSON	115	PIKE	195
CAMPBELL	037	KENTON	117	POWELL	197
CARLISLE	039	KNOTT	119	PULASKI	199
CARROLL	041	KNOX	121	ROBERTSON	201
CARTER	043	LARUE	123	ROCKCASTLE	203
CASEY	045	LAUREL	125	ROWAN	205
CHRISTIAN	047	LAWRENCE	127	RUSSELL	207
CLARK	049	LEE	129	SCOTT	209
CLAY	051	LESLIE	131	SHELBY	211
CLINTON	053	LETCHER	133	SIMPSON	213
CRITTENDEN	055	LEWIS	135	SPENCER	215
CUMBERLAND	057	LINCOLN	137	TAYLOR	217
DAVIESS	059	LIVINGSTON	139	TODD	219
EDMONSON	061	LOGAN	141	TRIGG	221
ELLIOTT	063	LYON	143	TRIMBLE	223
ESTILL	065	MCCRACKEN	145	UNION	225
FAYETTE	067	MCCREARY	147	WARREN	227
FLEMING	069	MCLEAN	149	WASHINGTON	229
FLOYD	071	MADISON	151	WAYNE	231
FRANKLIN	073	MAGOFFIN	153	WEBSTER	233
FULTON	075	MARION	155	WHITLEY	235
GALLATIN	077	MARSHALL	157	WOLFE	237
GARRARD	079	MARTIN	159	WOODFORD	239

STATE NAME: KENTUCKY

STATE CODE: 21

COUNTY NAME	CODE	COUNTY NAME	CODE	COUNTY NAME	CODE
ADAIR	001	GRANT	081	MASON	161
ALLEN	003	GRAVES	083	MEADE	163
ANDERSON	005	GRAYSON	085	MENIFEE	165
BALLARD	007	GREEN	087	MERCER	167
BARREN	009	GREENUP	089	METCALFE	169
BATH	011	HANCOCK	091	MONROE	171
BELL	013	HARDIN	093	MONTGOMERY	173
BOONE	015	HARLAN	095	MORGAN	175
BOURBON	017	HARRISON	097	MUHLENBERG	177
BOYD	019	HART	099	NELSON	179
BOYLE	021	HENDERSON	101	NICHOLAS	181
BRACKEN	023	HENRY	103	OHIO	183
BREATHITT	025	HICKMAN	105	OLDHAM	185
BRECKINRIDGE	027	HOPKINS	107	OWEN	187
BULLITT	029	JACKSON	109	OWSLEY	189
BUTLER	031	JEFFERSON	111	PENDLETON	191
CALDWELL	033	JESSAMINE	113	PERRY	193
CALLOWAY	035	JOHNSON	115	PIKE	195
CAMPBELL	037	KENTON	117	POWELL	197
CARLISLE	039	KNOTT	119	PULASKI	199
CARROLL	041	KNOX	121	ROBERTSON	201
CARTER	043	LARUE	123	ROCKCASTLE	203
CASEY	045	LAUREL	125	ROWAN	205
CHRISTIAN	047	LAWRENCE	127	RUSSELL	207
CLARK	049	LEE	129	SCOTT	209
CLAY	051	LESLIE	131	SHELBY	211
CLINTON	053	LETCHER	133	SIMPSON	213
CRITTENDEN	055	LEWIS	135	SPENCER	215
CUMBERLAND	057	LINCOLN	137	TAYLOR	217
DAVIESS	059	LIVINGSTON	139	TODD	219
EDMONSON	061	LOGAN	141	TRIGG	221
ELLIOTT	063	LYON	143	TRIMBLE	223
ESTILL	065	MCCRACKEN	145	UNION	225
FAYETTE	067	MCCREARY	147	WARREN	227
FLEMING	069	MCLEAN	149	WASHINGTON	229
FLOYD	071	MADISON	151	WAYNE	231
FRANKLIN	073	MAGOFFIN	153	WEBSTER	233
FULTON	075	MARION	155	WHITLEY	235
GALLATIN	077	MARSHALL	157	WOLFE	237
GARRARD	079	MARTIN	159	WOODFORD	239

LOUISIANA, MAINE

STATE NAME: LOUISIANA

STATE CODE: 22

COUNTY NAME	CODE	COUNTY NAME	CODE	COUNTY NAME	CODE
ACADIA	001	IBERIA	045	ST CHARLES	089
ALLEN	003	IBERVILLE	047	ST HELENA	091
ASCENSION	005	JACKSON	049	ST JAMES	093
ASSUMPTION	007	JEFFERSON	051	ST JOHN THE BAPTIST	095
AVOYELLES	009	JEFFERSON DAVIS	053	ST LANDRY	097
BEAUREGARD	011	LAFAYETTE	055	ST MARTIN	099
BIENVILLE	013	LAFOURCHE	057	ST MARY	101
BOSSIER	015	LA SALLE	059	ST TAMMANY	103
CADDO	017	LINCOLN	061	TANGIPAHOA	105
CALCASIEU	019	LIVINGSTON	063	TENSAS	107
CALDWELL	021	MADISON	065	TERREBONNE	109
CAMERON	023	MOREHOUSE	067	UNION	111
CATAHOULA	025	NATCHITOCHES	069	VERMILION	113
CLAIBORNE	027	ORLEANS	071	VERNON	115
CONCORDIA	029	OUACHITA	073	WASHINGTON	117
DE SOTO	031	PLAQUEMINES	075	WEBSTER	119
EAST BATON ROUGE	033	POINTE COUPEE	077	WEST BATON ROUGE	121
EAST CARROL	035	RAPIDES	079	WEST CARROLL	123
EAST FELICIANA	037	RED RIVER	081	WEST FELICIANA	125
EVANGELINE	039	RICHLAND	083	WINN	127
FRANKLIN	041	SABINE	085		
GRANT	043	ST BERNARD	087		

STATE NAME: MAINE

STATE CODE: 23

ANDROSCOGGIN	001	KNOX	013	SOMERSET	025
AROOSTOOK	003	LINCOLN	015	WALDO	027
CUMBERLAND	005	OXFORD	017	WASHINGTON	029
FRANKLIN	007	PENOBSCOT	019	YORK	031
HANCOCK	009	PISCATAQUIS	021		
KENNEBEC	011	SAGADAHOC	023		

STATE NAME: **MARYLAND**

STATE CODE: **24**

COUNTY NAME	CODE	COUNTY NAME	CODE	COUNTY NAME	CODE
ALLEGANY	001	GARRETT	023	WASHINGTON	043
ANNE ARUNDEL	003	HARFORD	025	WICOMICO	045
BALTIMORE	005	HOWARD	027	WORCESTER	047
CALVERT	009	KENT	029		
CAROLINE	011	MONTGOMERY	031	**INDEPENDENT CITY**	**CODE**
CARROLL	013	PRINCE GEORGES	033	BALTIMORE CITY	510
CECIL	015	QUEEN ANNES	035		
CHARLES	017	ST MARYS	037		
DORCHESTER	019	SOMERSET	039		
FREDERICK	021	TALBOT	041		

STATE NAME: **MASSACHUSETTS**

STATE CODE: **25**

BARNSTABLE	001	FRANKLIN	011	NORFOLK	021
BERKSHIRE	003	HAMPDEN	013	PLYMOUTH	023
BRISTOL	005	HAMPSHIRE	015	SUFFOLK	025
DUKES	007	MIDDLESEX	017	WORCESTER	027
ESSEX	009	NANTUCKET	019		

STATE NAME: **MICHIGAN**

STATE CODE: **26**

ALCONA	001	DELTA	041	KENT	081
ALGER	003	DICKINSON	043	KEWEENAW	083
ALLEGAN	005	EATON	045	LAKE	085
ALPENA	007	EMMET	047	LAPEER	087
ANTRIM	009	GENESEE	049	LEELANAU	089
ARENAC	011	GLADWIN	051	LENAWEE	091
BARAGA	013	GOGEBIC	053	LIVINGSTON	093
BARRY	015	GRAND TRAVERSE	055	LUCE	095
BAY	017	GRATIOT	057	MACKINAC	097
BENZIE	019	HILLSDALE	059	MACOMB	099
BERRIEN	021	HOUGHTON	061	MANISTEE	101
BRANCH	023	HURON	063	MARQUETTE	103
CALHOUN	025	INGHAM	065	MASON	105
CASS	027	IONIA	067	MECOSTA	107
CHARLEVOIX	029	IOSCO	069	MENOMINEE	109
CHEBOYGAN	031	IRON	071	MIDLAND	111
CHIPPEWA	033	ISABELLA	073	MISSAUKEE	113
CLARE	035	JACKSON	075	MONROE	115
CLINTON	037	KALAMAZOO	077	MONTCALM	117
CRAWFORD	039	KALKASKA	079	MONTMORENCY	119

STATE NAME: **MICHIGAN – Con.**

STATE CODE: **26**

COUNTY NAME	CODE	COUNTY NAME	CODE	COUNTY NAME	CODE
MUSKEGON	121	OTSEGO	137	SCHOOLCRAFT	153
NEWAYGO	123	OTTAWA	139	SHIAWASSEE	155
OAKLAND	125	PRESQUE ISLE	141	TUSCOLA	157
OCEANA	127	ROSCOMMON	143	VAN BUREN	159
OGEMAW	129	SAGINAW	145	WASHTENAW	161
ONTONAGON	131	ST CLAIR	147	WAYNE	163
OSCEOLA	133	ST JOSEPH	149	WEXFORD	165
OSCODA	135	SANILAC	151		

STATE NAME: **MINNESOTA**

STATE CODE: **27**

AITKIN	001	ITASCA	061	POPE	121
ANOKA	003	JACKSON	063	RAMSEY	123
BECKER	005	KANABEC	065	RED LAKE	125
BELTRAMI	007	KANDIYOHI	067	REDWOOD	127
BENTON	009	KITTSON	069	RENVILLE	129
BIG STONE	011	KOOCHICHING	071	RICE	131
BLUE EARTH	013	LAC QUI PARLE	073	ROCK	133
BROWN	015	LAKE	075	ROSEAU	135
CARLTON	017	LAKE OF THE WOODS	077	ST LOUIS	137
CARVER	019	LE SUEUR	079	SCOTT	139
CASS	021	LINCOLN	081	SHERBURNE	141
CHIPPEWA	023	LYON	083	SIBLEY	143
CHISAGO	025	MCLEOD	085	STEARNS	145
CLAY	027	MAHNOMEN	087	STEELE	147
CLEARWATER	029	MARSHALL	089	STEVENS	149
COOK	031	MARTIN	091	SWIFT	151
COTTONWOOD	033	MEEKER	093	TODD	153
CROW WING	035	MILLE LACS	095	TRAVERSE	155
DAKOTA	037	MORRISON	097	WABASHA	157
DODGE	039	MOWER	099	WADENA	159
DOUGLAS	041	MURRAY	101	WASECA	161
FARIBAULT	043	NICOLLET	103	WASHINGTON	163
FILLMORE	045	NOBLES	105	WATONWAN	165
FREEBORN	047	NORMAN	107	WILKIN	167
GOODHUE	049	OLMSTED	109	WINONA	169
GRANT	051	OTTER TAIL	111	WRIGHT	171
HENNEPIN	053	PENNINGTON	113	YELLOW MEDICINE	173
HOUSTON	055	PINE	115		
HUBBARD	057	PIPESTONE	117		
ISANTI	059	POLK	119		

STATE NAME: MISSISSIPPI

STATE CODE: 28

COUNTY NAME	CODE	COUNTY NAME	CODE	COUNTY NAME	CODE
ADAMS	001	JASPER	061	RANKIN	121
ALCORN	003	JEFFERSON	063	SCOTT	123
AMITE	005	JEFFERSON DAVIS	065	SHARKEY	125
ATTALA	007	JONES	067	SIMPSON	127
BENTON	009	KEMPER	069	SMITH	129
BOLIVAR	011	LAFAYETTE	071	STONE	131
CALHOUN	013	LAMAR	073	SUNFLOWER	133
CARROLL	015	LAUDERDALE	075	TALLAHATCHIE	135
CHICKASAW	017	LAWRENCE	077	TATE	137
CHOCTAW	019	LEAKE	079	TIPPAH	139
CLAIBORNE	021	LEE	081	TISHOMINGO	141
CLARKE	023	LEFLORE	083	TUNICA	143
CLAY	025	LINCOLN	085	UNION	145
COAHOMA	027	LOWNDES	087	WALTHALL	147
COPIAH	029	MADISON	089	WARREN	149
COVINGTON	031	MARION	091	WASHINGTON	151
DE SOTO	033	MARSHALL	093	WAYNE	153
FORREST	035	MONROE	095	WEBSTER	155
FRANKLIN	037	MONTGOMERY	097	WILKINSON	157
GEORGE	039	NESHOBA	099	WINSTON	159
GREENE	041	NEWTON	101	YALOBUSHA	161
GRENADA	043	NOXUBEE	103	YAZOO	163
HANCOCK	045	OKTIBBEHA	105		
HARRISON	047	PANOLA	107		
HINDS	049	PEARL RIVER	109		
HOLMES	051	PERRY	111		
HUMPHREYS	053	PIKE	113		
ISSAQUENA	055	PONTOTOC	115		
ITAWAMBA	057	PRENTISS	117		
JACKSON	059	QUITMAN	119		

STATE NAME: MISSOURI

STATE CODE: 29

ADAIR	001	BUCHANAN	021	CHARITON	041
ANDREW	003	BUTLER	023	CHRISTIAN	043
ATCHISON	005	CALDWELL	025	CLARK	045
AUDRAIN	007	CALLAWAY	027	CLAY	047
BARRY	009	CAMDEN	029	CLINTON	049
BARTON	011	CAPE GIRARDEAU	031	COLE	051
BATES	013	CARROLL	033	COOPER	053
BENTON	015	CARTER	035	CRAWFORD	055
BOLLINGER	017	CASS	037	DADE	057
BOONE	019	CEDAR	039	DALLAS	059

STATE NAME: **MISSOURI – Con.**

STATE CODE: **29**

COUNTY NAME	CODE	COUNTY NAME	CODE	COUNTY NAME	CODE
DAVIESS	061	MACON	121	RIPLEY	181
DE KALB	063	MADISON	123	ST CHARLES	183
DENT	065	MARIES	125	ST CLAIR	185
DOUGLAS	067	MARION	127	ST FRANCOIS	187
DUNKLIN	069	MERCER	129	ST LOUIS	189
FRANKLIN	071	MILLER	131	STE GENEVIEVE	193
GASCONADE	073	MISSISSIPPI	133	SALINE	195
GENTRY	075	MONITEAU	135	SCHUYLER	197
GREENE	077	MONROE	137	SCOTLAND	199
GRUNDY	079	MONTGOMERY	139	SCOTT	201
HARRISON	081	MORGAN	141	SHANNON	203
HENRY	083	NEW MADRID	143	SHELBY	205
HICKORY	085	NEWTON	145	STODDARD	207
HOLT	087	NODAWAY	147	STONE	209
HOWARD	089	OREGON	149	SULLIVAN	211
HOWELL	091	OSAGE	151	TANEY	213
IRON	093	OZARK	153	TEXAS	215
JACKSON	095	PEMISCOT	155	VERNON	217
JASPER	097	PERRY	157	WARREN	219
JEFFERSON	099	PETTIS	159	WASHINGTON	221
JOHNSON	101	PHELPS	161	WAYNE	223
KNOX	103	PIKE	163	WEBSTER	225
LACLEDE	105	PLATTE	165	WORTH	227
LAFAYETTE	107	POLK	167	WRIGHT	229
LAWRENCE	109	PULASKI	169		
LEWIS	111	PUTNAM	171		
LINCOLN	113	RALLS	173		
LINN	115	RANDOLPH	175		
LIVINGSTON	117	RAY	177		
MCDONALD	119	REYNOLDS	179		

INDEPENDENT CITY	CODE
ST LOUIS CITY	510

STATE NAME: **MONTANA**

STATE CODE: **30**

BEAVERHEAD	001	DAWSON	021	HILL	041
BIG HORN	003	DEER LODGE	023	JEFFERSON	043
BLAINE	005	FALLON	025	JUDITH BASIN	045
BROADWATER	007	FERGUS	027	LAKE	047
CARBON	009	FLATHEAD	029	LEWIS AND CLARK	049
CARTER	011	GALLATIN	031	LIBERTY	051
CASCADE	013	GARFIELD	033	LINCOLN	053
CHOUTEAU	015	GLACIER	035	MCCONE	055
CUSTER	017	GOLDEN VALLEY	037	MADISON	057
DANIELS	019	GRANITE	039	MEAGHER	059

COUNTY NAME	CODE	COUNTY NAME	CODE	COUNTY NAME	CODE
MINERAL	061	RAVALLI	081	TOOLE	101
MISSOULA	063	RICHLAND	083	TREASURE	103
MUSSELSHELL	065	ROOSEVELT	085	VALLEY	105
PARK	067	ROSEBUD	087	WHEATLAND	107
PETROLEUM	069	SANDERS	089	WIBAUX	109
PHILLIPS	071	SHERIDAN	091	YELLOWSTONE	111
PONDERA	073	SILVER BOW	093	YELLOWSTONE NATL PARK PART	113
POWDER RIVER	075	STILLWATER	095		
POWELL	077	SWEET GRASS	097		
PRAIRIE	079	TETON	099		

STATE NAME: **NEBRASKA**

STATE CODE: **31**

ADAMS	001	FRONTIER	063	NANCE	125
ANTELOPE	003	FURNAS	065	NEMAHA	127
ARTHUR	005	GAGE	067	NUCKOLLS	129
BANNER	007	GARDEN	069	OTOE	131
BLAINE	009	GARFIELD	071	PAWNEE	133
BOONE	011	GOSPER	073	PERKINS	135
BOX BUTTE	013	GRANT	075	PHELPS	137
BOYD	015	GREELEY	077	PIERCE	139
BROWN	017	HALL	079	PLATTE	141
BUFFALO	019	HAMILTON	081	POLK	143
BURT	021	HARLAN	083	RED WILLOW	145
BUTLER	023	HAYES	085	RICHARDSON	147
CASS	025	HITCHCOCK	087	ROCK	149
CEDAR	027	HOLT	089	SALINE	151
CHASE	029	HOOKER	091	SARPY	153
CHERRY	031	HOWARD	093	SAUNDERS	155
CHEYENNE	033	JEFFERSON	095	SCOTTS BLUFF	157
CLAY	035	JOHNSON	097	SEWARD	159
COLFAX	037	KEARNEY	099	SHERIDAN	161
CUMING	039	KEITH	101	SHERMAN	163
CUSTER	041	KEYA PAHA	103	SIOUX	165
DAKOTA	043	KIMBALL	105	STANTON	167
DAWES	045	KNOX	107	THAYER	169
DAWSON	047	LANCASTER	109	THOMAS	171
DEUEL	049	LINCOLN	111	THURSTON	173
DIXON	051	LOGAN	113	VALLEY	175
DODGE	053	LOUP	115	WASHINGTON	177
DOUGLAS	055	MCPHERSON	117	WAYNE	179
DUNDY	057	MADISON	119	WEBSTER	181
FILLMORE	059	MERRICK	121	WHEELER	183
FRANKLIN	061	MORRILL	123	YORK	185

NEVADA, NEW HAMPSHIRE, NEW JERSEY, NEW MEXICO

STATE NAME: **NEVADA**

STATE CODE: **32**

COUNTY NAME	CODE	COUNTY NAME	CODE	COUNTY NAME	CODE
CHURCHILL	001	HUMBOLDT	013	ORMSBY	025
CLARK	003	LANDER	015	PERSHING	027
DOUGLAS	005	LINCOLN	017	STOREY	029
ELKO	007	LYON	019	WASHOE	031
ESMERALDA	009	MINERAL	021	WHITE PINE	033
EUREKA	011	NYE	023		

STATE NAME: **NEW HAMPSHIRE**

STATE CODE: **33**

COUNTY NAME	CODE	COUNTY NAME	CODE
BELKNAP	001	HILLSBORO	011
CARROLL	003	MERRIMACK	013
CHESHIRE	005	ROCKINGHAM	015
COOS	007	STRAFFORD	017
GRAFTON	009	SULLIVAN	019

STATE NAME: **NEW JERSEY**

STATE CODE: **34**

COUNTY NAME	CODE	COUNTY NAME	CODE	COUNTY NAME	CODE
ATLANTIC	001	GLOUCESTER	015	OCEAN	029
BERGEN	003	HUDSON	017	PASSAIC	031
BURLINGTON	005	HUNTERDON	019	SALEM	033
CAMDEN	007	MERCER	021	SOMERSET	035
CAPE MAY	009	MIDDLESEX	023	SUSSEX	037
CUMBERLAND	011	MONMOUTH	025	UNION	039
ESSEX	013	MORRIS	027	WARREN	041

STATE NAME: **NEW MEXICO**

STATE CODE: **35**

BERNALILLO	001	HIDALGO	023	SANDOVAL	043
CATRON	003	LEA	025	SAN JUAN	045
CHAVES	005	LINCOLN	027	SAN MIGUEL	047
COLFAX	007	LOS ALAMOS	028	SANTA FE	049
CURRY	009	LUNA	029	SIERRA	051
DE BACA	011	MCKINLEY	031	SOCORRO	053
DONA ANA	013	MORA	033	TAOS	055
EDDY	015	OTERO	035	TORRANCE	057
GRANT	017	QUAY	037	UNION	059
GUADALUPE	019	RIO ARRIBA	039	VALENCIA	061
HARDING	021	ROOSEVELT	041		

STATE NAME: NEW YORK

STATE CODE: 36

COUNTY NAME	CODE	COUNTY NAME	CODE	COUNTY NAME	CODE
ALBANY	001	HERKIMER	043	RICHMOND	085
ALLEGANY	003	JEFFERSON	045	ROCKLAND	087
BRONX	005	KINGS	047	ST LAWRENCE	089
BROOME	007	LEWIS	049	SARATOGA	091
CATTARAUGUS	009	LIVINGSTON	051	SCHENECTADY	093
CAYUGA	011	MADISON	053	SCHOHARIE	095
CHAUTAUQUA	013	MONROE	055	SCHUYLER	097
CHEMUNG	015	MONTGOMERY	057	SENECA	099
CHENANGO	017	NASSAU	059	STEUBEN	101
CLINTON	019	NEW YORK	061	SUFFOLK	103
COLUMBIA	021	NIAGARA	063	SULLIVAN	105
CORTLAND	023	ONEIDA	065	TIOGA	107
DELAWARE	025	ONONDAGA	067	TOMPKINS	109
DUTCHESS	027	ONTARIO	069	ULSTER	111
ERIE	029	ORANGE	071	WARREN	113
ESSEX	031	ORLEANS	073	WASHINGTON	115
FRANKLIN	033	OSWEGO	075	WAYNE	117
FULTON	035	OTSEGO	077	WESTCHESTER	119
GENESEE	037	PUTNAM	079	WYOMING	121
GREENE	039	QUEENS	081	YATES	123
HAMILTON	041	RENSSELAER	083		

STATE NAME: NORTH CAROLINA

STATE CODE: 37

ALAMANCE	001	CRAVEN	049	IREDELL	097
ALEXANDER	003	CUMBERLAND	051	JACKSON	099
ALLEGHANY	005	CURRITUCK	053	JOHNSTON	101
ANSON	007	DARE	055	JONES	103
ASHE	009	DAVIDSON	057	LEE	105
AVERY	011	DAVIE	059	LENOIR	107
BEAUFORT	013	DUPLIN	061	LINCOLN	109
BERTIE	015	DURHAM	063	MCDOWELL	111
BLADEN	017	EDGECOMBE	065	MACON	113
BRUNSWICK	019	FORSYTH	067	MADISON	115
BUNCOMBE	021	FRANKLIN	069	MARTIN	117
BURKE	023	GASTON	071	MECKLENBURG	119
CABARRUS	025	GATES	073	MITCHELL	121
CALDWELL	027	GRAHAM	075	MONTGOMERY	123
CAMDEN	029	GRANVILLE	077	MOORE	125
CARTERET	031	GREENE	079	NASH	127
CASWELL	033	GUILFORD	081	NEW HANOVER	129
CATAWBA	035	HALIFAX	083	NORTHAMPTON	131
CHATHAM	037	HARNETT	085	ONSLOW	133
CHEROKEE	039	HAYWOOD	087	ORANGE	135
CHOWAN	041	HENDERSON	089	PAMLICO	137
CLAY	043	HERTFORD	091	PASQUOTANK	139
CLEVELAND	045	HOKE	093	PENDER	141
COLUMBUS	047	HYDE	095	PERQUIMANS	143

STATE NAME: **NORTH CAROLINA – Con.**

STATE CODE: **37**

COUNTY NAME	CODE	COUNTY NAME	CODE	COUNTY NAME	CODE
PERSON	145	SCOTLAND	165	WARREN	185
PITT	147	STANLY	167	WASHINGTON	187
POLK	149	STOKES	169	WATAUGA	189
RANDOLPH	151	SURRY	171	WAYNE	191
RICHMOND	153	SWAIN	173	WILKES	193
ROBESON	155	TRANSYLVANIA	175	WILSON	195
ROCKINGHAM	157	TYRRELL	177	YADKIN	197
ROWAN	159	UNION	179	YANCEY	199
RUTHERFORD	161	VANCE	181		
SAMPSON	163	WAKE	183		

STATE NAME: **NORTH DAKOTA**

STATE CODE: **38**

ADAMS	001	GRANT	037	RANSOM	073
BARNES	003	GRIGGS	039	RENVILLE	075
BENSON	005	HETTINGER	041	RICHLAND	077
BILLINGS	007	KIDDER	043	ROLETTE	079
BOTTINEAU	009	LA MOURE	045	SARGENT	081
BOWMAN	011	LOGAN	047	SHERIDAN	083
BURKE	013	MCHENRY	049	SIOUX	085
BURLEIGH	015	MCINTOSH	051	SLOPE	087
CASS	017	MCKENZIE	053	STARK	089
CAVALIER	019	MCLEAN	055	STEELE	091
DICKEY	021	MERCER	057	STUTSMAN	093
DIVIDE	023	MORTON	059	TOWNER	095
DUNN	025	MOUNTRAIL	061	TRAILL	097
EDDY	027	NELSON	063	WALSH	099
EMMONS	029	OLIVER	065	WARD	101
FOSTER	031	PEMBINA	067	WELLS	103
GOLDEN VALLEY	033	PIERCE	069	WILLIAMS	105
GRAND FORKS	035	RAMSEY	071		

STATE NAME: **OHIO**

STATE CODE: **39**

ADAMS	001	CHAMPAIGN	021	DELAWARE	041
ALLEN	003	CLARK	023	ERIE	043
ASHLAND	005	CLERMONT	025	FAIRFIELD	045
ASHTABULA	007	CLINTON	027	FAYETTE	047
ATHENS	009	COLUMBIANA	029	FRANKLIN	049
AUGLAIZE	011	COSHOCTON	031	FULTON	051
BELMONT	013	CRAWFORD	033	GALLIA	053
BROWN	015	CUYAHOGA	035	GEAUGA	055
BUTLER	017	DARKE	037	GREENE	057
CARROLL	019	DEFIANCE	039	GUERNSEY	059

COUNTY NAME	CODE	COUNTY NAME	CODE	COUNTY NAME	CODE
HAMILTON	061	MARION	101	ROSS	141
HANCOCK	063	MEDINA	103	SANDUSKY	143
HARDIN	065	MEIGS	105	SCIOTO	145
HARRISON	067	MERCER	107	SENECA	147
HENRY	069	MIAMI	109	SHELBY	149
HIGHLAND	071	MONROE	111	STARK	151
HOCKING	073	MONTGOMERY	113	SUMMIT	153
HOLMES	075	MORGAN	115	TRUMBULL	155
HURON	077	MORROW	117	TUSCARAWAS	157
JACKSON	079	MUSKINGUM	119	UNION	159
JEFFERSON	081	NOBLE	121	VAN WERT	161
KNOX	083	OTTAWA	123	VINTON	163
LAKE	085	PAULDING	125	WARREN	165
LAWRENCE	087	PERRY	127	WASHINGTON	167
LICKING	089	PICKAWAY	129	WAYNE	169
LOGAN	091	PIKE	131	WILLIAMS	171
LORAIN	093	PORTAGE	133	WOOD	173
LUCAS	095	PREBLE	135	WYANDOT	175
MADISON	097	PUTNAM	137		
MAHONING	099	RICHLAND	139		

STATE NAME: **OKLAHOMA**

STATE CODE: **40**

ADAIR	001	GRANT	053	NOWATA	105
ALFALFA	003	GREER	055	OKFUSKEE	107
ATOKA	005	HARMON	057	OKLAHOMA	109
BEAVER	007	HARPER	059	OKMULGEE	111
BECKHAM	009	HASKELL	061	OSAGE	113
BLAINE	011	HUGHES	063	OTTAWA	115
BRYAN	013	JACKSON	065	PAWNEE	117
CADDO	015	JEFFERSON	067	PAYNE	119
CANADIAN	017	JOHNSTON	069	PITTSBURG	121
CARTER	019	KAY	071	PONTOTOC	123
CHEROKEE	021	KINGFISHER	073	POTTAWATOMIE	125
CHOCTAW	023	KIOWA	075	PUSHMATAHA	127
CIMARRON	025	LATIMER	077	ROGER MILLS	129
CLEVELAND	027	LE FLORE	079	ROGERS	131
COAL	029	LINCOLN	081	SEMINOLE	133
COMANCHE	031	LOGAN	083	SEQUOYAH	135
COTTON	033	LOVE	085	STEPHENS	137
CRAIG	035	MCCLAIN	087	TEXAS	139
CREEK	037	MCCURTAIN	089	TILLMAN	141
CUSTER	039	MCINTOSH	091	TULSA	143
DELAWARE	041	MAJOR	093	WAGONER	145
DEWEY	043	MARSHALL	095	WASHINGTON	147
ELLIS	045	MAYES	097	WASHITA	149
GARFIELD	047	MURRAY	099	WOODS	151
GARVIN	049	MUSKOGEE	101	WOODWARD	153
GRADY	051	NOBLE	103		

OREGON, PENNSYLVANIA, RHODE ISLAND

STATE NAME: **OREGON**

STATE CODE: **41**

COUNTY NAME	CODE	COUNTY NAME	CODE	COUNTY NAME	CODE
BAKER	001	HARNEY	025	MORROW	049
BENTON	003	HOOD RIVER	027	MULTNOMAH	051
CLACKAMAS	005	JACKSON	029	POLK	053
CLATSOP	007	JEFFERSON	031	SHERMAN	055
COLUMBIA	009	JOSEPHINE	033	TILLAMOOK	057
COOS	011	KLAMATH	035	UMATILLA	059
CROOK	013	LAKE	037	UNION	061
CURRY	015	LANE	039	WALLOWA	063
DESCHUTES	017	LINCOLN	041	WASCO	065
DOUGLAS	019	LINN	043	WASHINGTON	067
GILLIAM	021	MALHEUR	045	WHEELER	069
GRANT	023	MARION	047	YAMHILL	071

STATE NAME: **PENNSYLVANIA**

STATE CODE: **42**

ADAMS	001	ELK	047	MONTGOMERY	091
ALLEGHENY	003	ERIE	049	MONTOUR	093
ARMSTRONG	005	FAYETTE	051	NORTHAMPTON	095
BEAVER	007	FOREST	053	NORTHUMBERLAND	097
BEDFORD	009	FRANKLIN	055	PERRY	099
BERKS	011	FULTON	057	PHILADELPHIA	101
BLAIR	013	GREENE	059	PIKE	103
BRADFORD	015	HUNTINGDON	061	POTTER	105
BUCKS	017	INDIANA	063	SCHUYLKILL	107
BUTLER	019	JEFFERSON	065	SNYDER	109
CAMBRIA	021	JUNIATA	067	SOMERSET	111
CAMERON	023	LACKAWANNA	069	SULLIVAN	113
CARBON	025	LANCASTER	071	SUSQUEHANNA	115
CENTRE	027	LAWRENCE	073	TIOGA	117
CHESTER	029	LEBANON	075	UNION	119
CLARION	031	LEHIGH	077	VENANGO	121
CLEARFIELD	033	LUZERNE	079	WARREN	123
CLINTON	035	LYCOMING	081	WASHINGTON	125
COLUMBIA	037	MCKEAN	083	WAYNE	127
CRAWFORD	039	MERCER	085	WESTMORELAND	129
CUMBERLAND	041	MIFFLIN	087	WYOMING	131
DAUPHIN	043	MONROE	089	YORK	133
DELAWARE	045				

STATE NAME: **RHODE ISLAND**

STATE CODE: **44**

COUNTY NAME	CODE	COUNTY NAME	CODE
BRISTOL	001	PROVIDENCE	007
KENT	003	WASHINGTON	009
NEWPORT	005		

STATE NAME: SOUTH CAROLINA

STATE CODE: 45

COUNTY NAME	CODE	COUNTY NAME	CODE	COUNTY NAME	CODE
ABBEVILLE	001	DILLON	033	LEXINGTON	063
AIKEN	003	DORCHESTER	035	MCCORMICK	065
ALLENDALE	005	EDGEFIELD	037	MARION	067
ANDERSON	007	FAIRFIELD	039	MARLBORO	069
BAMBERG	009	FLORENCE	041	NEWBERRY	071
BARNWELL	011	GEORGETOWN	043	OCONEE	073
BEAUFORT	013	GREENVILLE	045	ORANGEBURG	075
BERKELEY	015	GREENWOOD	047	PICKENS	077
CALHOUN	017	HAMPTON	049	RICHLAND	079
CHARLESTON	019	HORRY	051	SALUDA	081
CHEROKEE	021				
CHESTER	023	JASPER	053	SPARTANBURG	083
CHESTERFIELD	025	KERSHAW	055	SUMTER	085
CLARENDON	027	LANCASTER	057	UNION	087
COLLETON	029	LAURENS	059	WILLIAMSBURG	089
DARLINGTON	031	LEE	061	YORK	091

STATE NAME: SOUTH DAKOTA

STATE CODE: 46

AURORA	003	FAULK	049	MEADE	093
BEADLE	005	GRANT	051	MELLETTE	095
BENNETT	007	GREGORY	053	MINER	097
BON HOMME	009	HAAKON	055	MINNEHAHA	099
BROOKINGS	011	HAMLIN	057	MOODY	101
BROWN	013	HAND	059	PENNINGTON	103
BRULE	015	HANSON	061	PERKINS	105
BUFFALO	017	HARDING	063	POTTER	107
BUTTE	019	HUGHES	065	ROBERTS	109
CAMPBELL	021	HUTCHINSON	067	SANBORN	111
CHARLES MIX	023	HYDE	069	SHANNON	113
CLARK	025	JACKSON	071	SPINK	115
CLAY	027	JERAULD	073	STANLEY	117
CODINGTON	029	JONES	075	SULLY	119
CORSON	031	KINGSBURY	077	TODD	121
CUSTER	033	LAKE	079	TRIPP	123
DAVISON	035	LAWRENCE	081	TURNER	125
DAY	037	LINCOLN	083	UNION	127
DEUEL	039	LYMAN	085	WALWORTH	129
DEWEY	041	MCCOOK	087	WASHABAUGH	131
DOUGLAS	043	MCPHERSON	089	YANKTON	135
EDMUNDS	045	MARSHALL	091	ZIEBACH	137
FALL RIVER	047				

STATE NAME: TENNESSEE

STATE CODE: 47

COUNTY NAME	CODE	COUNTY NAME	CODE	COUNTY NAME	CODE
ANDERSON	001	HAMILTON	065	MORGAN	129
BEDFORD	003	HANCOCK	067	OBION	131
BENTON	005	HARDEMAN	069	OVERTON	133
BLEDSOE	007	HARDIN	071	PERRY	135
BLOUNT	009	HAWKINS	073	PICKETT	137
BRADLEY	011	HAYWOOD	075	POLK	139
CAMPBELL	013	HENDERSON	077	PUTNAM	141
CANNON	015	HENRY	079	RHEA	143
CARROLL	017	HICKMAN	081	ROANE	145
CARTER	019	HOUSTON	083	ROBERTSON	147
CHEATHAM	021	HUMPHREYS	085	RUTHERFORD	149
CHESTER	023	JACKSON	087	SCOTT	151
CLAIBORNE	025	JEFFERSON	089	SEQUATCHIE	153
CLAY	027	JOHNSON	091	SEVIER	155
COCKE	029	KNOX	093	SHELBY	157
COFFEE	031	LAKE	095	SMITH	159
CROCKETT	033	LAUDERDALE	097	STEWART	161
CUMBERLAND	035	LAWRENCE	099	SULLIVAN	163
DAVIDSON	037	LEWIS	101	SUMNER	165
DECATUR	039	LINCOLN	103	TIPTON	167
DE KALB	041	LOUDON	105	TROUSDALE	169
DICKSON	043	MCMINN	107	UNICOI	171
DYER	045	MCNAIRY	109	UNION	173
FAYETTE	047	MACON	111	VAN BUREN	175
FENTRESS	049	MADISON	113	WARREN	177
FRANKLIN	051	MARION	115	WASHINGTON	179
GIBSON	053	MARSHALL	117	WAYNE	181
GILES	055	MAURY	119	WEAKLEY	183
GRAINGER	057	MEIGS	121	WHITE	185
GREENE	059	MONROE	123	WILLIAMSON	187
GRUNDY	061	MONTGOMERY	125	WILSON	189
HAMBLEN	063	MOORE	127		

STATE NAME: TEXAS

STATE CODE: 48

ANDERSON	001	BELL	027	BURNET	053
ANDREWS	003	BEXAR	029	CALDWELL	055
ANGELINA	005	BLANCO	031	CALHOUN	057
ARANSAS	007	BORDEN	033	CALLAHAN	059
ARCHER	009	BOSQUE	035	CAMERON	061
ARMSTRONG	011	BOWIE	037	CAMP	063
ATASCOSA	013	BRAZORIA	039	CARSON	065
AUSTIN	015	BRAZOS	041	CASS	067
BAILEY	017	BREWSTER	043	CASTRO	069
BANDERA	019	BRISCOE	045	CHAMBERS	071
BASTROP	021	BROOKS	047	CHEROKEE	073
BAYLOR	023	BROWN	049	CHILDRESS	075
BEE	025	BURLESON	051	CLAY	077

TEXAS

COUNTY NAME	CODE
COCHRAN	079
COKE	081
COLEMAN	083
COLLIN	085
COLLINGSWORTH	087
COLORADO	089
COMAL	091
COMANCHE	093
CONCHO	095
COOKE	097
CORYELL	099
COTTLE	101
CRANE	103
CROCKETT	105
CROSBY	107
CULBERSON	109
DALLAM	111
DALLAS	113
DAWSON	115
DEAF SMITH	117
DELTA	119
DENTON	121
DE WITT	123
DICKENS	125
DIMMIT	127
DONLEY	129
DUVAL	131
EASTLAND	133
ECTOR	135
EDWARDS	137
ELLIS	139
EL PASO	141
ERATH	143
FALLS	145
FANNIN	147
FAYETTE	149
FISHER	151
FLOYD	153
FOARD	155
FORT BEND	157
FRANKLIN	159
FREESTONE	161
FRIO	163
GAINES	165
GALVESTON	167
GARZA	169
GILLESPIE	171
GLASSCOCK	173
GOLIAD	175
GONZALES	177
GRAY	179
GRAYSON	181
GREGG	183
GRIMES	185
GUADALUPE	187
HALE	189
HALL	191
HAMILTON	193
HANSFORD	195
HARDEMAN	197
HARDIN	199
HARRIS	201
HARRISON	203
HARTLEY	205
HASKELL	207
HAYS	209
HEMPHILL	211
HENDERSON	213
HIDALGO	215
HILL	217
HOCKLEY	219
HOOD	221
HOPKINS	223
HOUSTON	225
HOWARD	227
HUDSPETH	229
HUNT	231
HUTCHINSON	233
IRION	235
JACK	237
JACKSON	239
JASPER	241
JEFF DAVIS	243
JEFFERSON	245
JIM HOGG	247
JIM WELLS	249
JOHNSON	251
JONES	253
KARNES	255
KAUFMAN	257
KENDALL	259
KENEDY	261
KENT	263
KERR	265
KIMBLE	267
KING	269
KINNEY	271
KLEBERG	273
KNOX	275
LAMAR	277
LAMB	279
LAMPASAS	281
LA SALLE	283
LAVACA	285
LEE	287
LEON	289
LIBERTY	291
LIMESTONE	293
LIPSCOMB	295
LIVE OAK	297
LLANO	299
LOVING	301
LUBBOCK	303
LYNN	305
MCCULLOCH	307
MCLENNAN	309
MCMULLEN	311
MADISON	313
MARION	315
MARTIN	317
MASON	319
MATAGORDA	321
MAVERICK	323
MEDINA	325
MENARD	327
MIDLAND	329
MILAM	331
MILLS	333
MITCHELL	335
MONTAGUE	337
MONTGOMERY	339
MOORE	341
MORRIS	343
MOTLEY	345
NACOGDOCHES	347
NAVARRO	349
NEWTON	351
NOLAN	353
NUECES	355
OCHILTREE	357
OLDHAM	359
ORANGE	361
PALO PINTO	363
PANOLA	365
PARKER	367
PARMER	369
PECOS	371
POLK	373
POTTER	375
PRESIDIO	377
RAINS	379
RANDALL	381
REAGAN	383
REAL	385
RED RIVER	387
REEVES	389
REFUGIO	391
ROBERTS	393
ROBERTSON	395
ROCKWALL	397
RUNNELS	399
RUSK	401

STATE NAME: **TEXAS – Con.**

STATE CODE: **48**

COUNTY NAME	CODE	COUNTY NAME	CODE	COUNTY NAME	CODE
SABINE	403	TARRANT	439	WARD	475
SAN AUGUSTINE	405	TAYLOR	441	WASHINGTON	477
SAN JACINTO	407	TERRELL	443	WEBB	479
SAN PATRICIO	409	TERRY	445	WHARTON	481
SAN SABA	411	THROCKMORTON	447	WHEELER	483
SCHLEICHER	413	TITUS	449	WICHITA	485
SCURRY	415	TOM GREEN	451	WILBARGER	487
SHACKELFORD	417	TRAVIS	453	WILLACY	489
SHELBY	419	TRINITY	455	WILLIAMSON	491
SHERMAN	421	TYLER	457	WILSON	493
SMITH	423	UPSHUR	459	WINKLER	495
SOMERVELL	425	UPTON	461	WISE	497
STARR	427	UVALDE	463	WOOD	499
STEPHENS	429	VAL VERDE	465	YOAKUM	501
STERLING	431	VAN ZANDT	467	YOUNG	503
STONEWALL	433	VICTORIA	469	ZAPATA	505
SUTTON	435	WALKER	471	ZAVALA	507
SWISHER	437	WALLER	473		

STATE NAME: **UTAH**

STATE CODE: **49**

BEAVER	001	IRON	021	SEVIER	041
BOX ELDER	003	JUAB	023	SUMMIT	043
CACHE	005	KANE	025	TOOELE	045
CARBON	007	MILLARD	027	UINTAH	047
DAGGETT	009	MORGAN	029	UTAH	049
DAVIS	011	PIUTE	031	WASATCH	051
DUCHESNE	013	RICH	033	WASHINGTON	053
EMERY	015	SALT LAKE	035	WAYNE	055
GARFIELD	017	SAN JUAN	037	WEBER	057
GRAND	019	SANPETE	039		

STATE NAME: **VERMONT**

STATE CODE: **50**

ADDISON	001	FRANKLIN	011	RUTLAND	021
BENNINGTON	003	GRAND ISLE	013	WASHINGTON	023
CALEDONIA	005	LAMOILLE	015	WINDHAM	025
CHITTENDEN	007	ORANGE	017	WINDSOR	027
ESSEX	009	ORLEANS	019		

STATE NAME: **VIRGINIA**

STATE CODE: **51**

COUNTY NAME	CODE	COUNTY NAME	CODE	INDEPENDENT CITIES	CODE
ACCOMACK	001	KING GEORGE	099	ALEXANDRIA	510
ALBEMARLE	003	KING WILLIAM	101	BRISTOL	520
ALLEGHANY	005	LANCASTER	103	BUENA VISTA	530
AMELIA	007	LEE	105	CHARLOTTESVILLE	540
AMHERST	009	LOUDOUN	107	CHESAPEAKE	550
APPOMATTOX	011	LOUISA	109	CLIFTON FORGE	560
ARLINGTON	013	LUNENBURG	111	COLONIAL HEIGHTS	570
AUGUSTA	015	MADISON	113	COVINGTON	580
BATH	017	MATHEWS	115	DANVILLE	590
BEDFORD	019	MECKLENBURG	117	EMPORIA	595
BLAND	021	MIDDLESEX	119	FAIRFAX	600
BOTETOURT	023	MONTGOMERY	121	FALLS CHURCH	610
BRUNSWICK	025	NANSEMOND	123	FRANKLIN	620
BUCHANAN	027	NELSON	125	FREDERICKSBURG	630
BUCKINGHAM	029	NEW KENT	127	GALAX	640
CAMPBELL	031	NORTHAMPTON	131	HAMPTON	650
CAROLINE	033	NORTHUMBERLAND	133	HARRISONBURG	660
CARROLL	035	NOTTOWAY	135	HOPEWELL	670
CHARLES CITY	036	ORANGE	137	LEXINGTON	678
CHARLOTTE	037	PAGE	139	LYNCHBURG	680
CHESTERFIELD	041	PATRICK	141	MARTINSVILLE	690
CLARKE	043	PITTSYLVANIA	143	NEWPORT NEWS	700
CRAIG	045	POWHATAN	145	NORFOLK	710
CULPEPER	047	PRINCE EDWARD	147	NORTON	720
CUMBERLAND	049	PRINCE GEORGE	149	PETERSBURG	730
DICKENSON	051	PRINCE WILLIAM	153	PORTSMOUTH	740
DINWIDDIE	053	PULASKI	155	RADFORD	750
ESSEX	057	RAPPAHANNOCK	157	RICHMOND	760
FAIRFAX	059	RICHMOND	159	ROANOKE	770
FAUQUIER	061	ROANOKE	161	SALEM	775
FLOYD	063	ROCKBRIDGE	163	SOUTH BOSTON	780
FLUVANNA	065	ROCKINGHAM	165	STAUNTON	790
FRANKLIN	067	RUSSELL	167	SUFFOLK	800
FREDERICK	069	SCOTT	169	VIRGINIA BEACH	810
GILES	071	SHENANDOAH	171	WAYNESBORO	820
GLOUCESTER	073	SMYTH	173	WILLIAMSBURG	830
GOOCHLAND	075	SOUTHAMPTON	175	WINCHESTER	840
GRAYSON	077	SPOTSYLVANIA	177		
GREENE	079	STAFFORD	179		
GREENSVILLE	081	SURRY	181		
HALIFAX	083	SUSSEX	183		
HANOVER	085	TAZEWELL	185		
HENRICO	087	WARREN	187		
HENRY	089	WASHINGTON	191		
HIGHLAND	091	WESTMORELAND	193		
ISLE OF WIGHT	093	WISE	195		
JAMES CITY	095	WYTHE	197		
KING AND QUEEN	097	YORK	199		

WASHINGTON, WEST VIRGINIA, WISCONSIN

STATE NAME: **WASHINGTON**

STATE CODE: **53**

COUNTY NAME	CODE	COUNTY NAME	CODE	COUNTY NAME	CODE
ADAMS	001	GRAYS HARBOR	027	PIERCE	053
ASOTIN	003	ISLAND	029	SAN JUAN	055
BENTON	005	JEFFERSON	031	SKAGIT	057
CHELAN	007	KING	033	SKAMANIA	059
CLALLAM	009	KITSAP	035	SNOHOMISH	061
CLARK	011	KITTITAS	037	SPOKANE	063
COLUMBIA	013	KLICKITAT	039	STEVENS	065
COWLITZ	015	LEWIS	041	THURSTON	067
DOUGLAS	017	LINCOLN	043	WAHKIAKUM	069
FERRY	019	MASON	045	WALLA WALLA	071
FRANKLIN	021	OKANOGAN	047	WHATCOM	073
GARFIELD	023	PACIFIC	049	WHITMAN	075
GRANT	025	PEND OREILLE	051	YAKIMA	077

STATE NAME: **WEST VIRGINIA**

STATE CODE: **54**

BARBOUR	001	KANAWHA	039	PRESTON	077
BERKELEY	003	LEWIS	041	PUTNAM	079
BOONE	005	LINCOLN	043	RALEIGH	081
BRAXTON	007	LOGAN	045	RANDOLPH	083
BROOKE	009	MCDOWELL	047	RITCHIE	085
CABELL	011	MARION	049	ROANE	087
CALHOUN	013	MARSHALL	051	SUMMERS	089
CLAY	015	MASON	053	TAYLOR	091
DODDRIDGE	017	MERCER	055	TUCKER	093
FAYETTE	019	MINERAL	057	TYLER	095
GILMER	021	MINGO	059	UPSHUR	097
GRANT	023	MONONGALIA	061	WAYNE	099
GREENBRIER	025	MONROE	063	WEBSTER	101
HAMPSHIRE	027	MORGAN	065	WETZEL	103
HANCOCK	029	NICHOLAS	067	WIRT	105
HARDY	031	OHIO	069	WOOD	107
HARRISON	033	PENDLETON	071	WYOMING	109
JACKSON	035	PLEASANTS	073		
JEFFERSON	037	POCAHONTAS	075		

STATE NAME: **WISCONSIN**

STATE CODE: **55**

ADAMS	001	BUFFALO	011	COLUMBIA	021
ASHLAND	003	BURNETT	013	CRAWFORD	023
BARRON	005	CALUMET	015	DANE	025
BAYFIELD	007	CHIPPEWA	017	DODGE	027
BROWN	009	CLARK	019	DOOR	029

COUNTY NAME	CODE	COUNTY NAME	CODE	COUNTY NAME	CODE
DOUGLAS	031	LINCOLN	069	ROCK	105
DUNN	033	MANITOWOC	071	RUSK	107
EAU CLAIRE	035	MARATHON	073	ST CROIX	109
FLORENCE	037	MARINETTE	075	SAUK	111
FOND DU LAC	039	MARQUETTE	077	SAWYER	113
FOREST	041	MENOMINEE	078	SHAWANO	115
GRANT	043	MILWAUKEE	079	SHEBOYGAN	117
GREEN	045	MONROE	081	TAYLOR	119
GREEN LAKE	047	OCONTO	083	TREMPEALEAU	121
IOWA	049	ONEIDA	085	VERNON	123
IRON	051	OUTAGAMIE	087	VILAS	125
JACKSON	053	OZAUKEE	089	WALWORTH	127
JEFFERSON	055	PEPIN	091	WASHBURN	129
JUNEAU	057	PIERCE	093	WASHINGTON	131
KENOSHA	059	POLK	095	WAUKESHA	133
KEWAUNEE	061	PORTAGE	097	WAUPACA	135
LA CROSSE	063	PRICE	099	WAUSHARA	137
LAFAYETTE	065	RACINE	101	WINNEBAGO	139
LANGLADE	067	RICHLAND	103	WOOD	141

STATE NAME: **WYOMING**

STATE CODE: **56**

ALBANY	001	HOT SPRINGS	017	SHERIDAN	033
BIG HORN	003	JOHNSON	019	SUBLETTE	035
CAMPBELL	005	LARAMIE	021	SWEETWATER	037
CARBON	007	LINCOLN	023	TETON	039
CONVERSE	009	NATRONA	025	UINTA	041
CROOK	011	NIOBRARA	027	WASHAKIE	043
FREMONT	013	PARK	029	WESTON	045
GOSHEN	015	PLATTE	031		

NATIONAL BUREAU OF STANDARDS

The National Bureau of Standards[1] was established by an act of Congress March 3, 1901. Today, in addition to serving as the Nation's central measurement laboratory, the Bureau is a principal focal point in the Federal Government for assuring maximum application of the physical and engineering sciences to the advancement of technology in industry and commerce. To this end the Bureau conducts research and provides central national services in three broad program areas and provides central national services in a fourth. These are: (1) basic measurements and standards, (2) materials measurements and standards, (3) technological measurements and standards, and (4) transfer of technology.

The Bureau comprises the Institute for Basic Standards, the Institute for Materials Research, the Institute for Applied Technology, and the Center for Radiation Research.

THE INSTITUTE FOR BASIC STANDARDS provides the central basis within the United States of a complete and consistent system of physical measurement, coordinates that system with the measurement systems of other nations, and furnishes essential services leading to accurate and uniform physical measurements throughout the Nation's scientific community, industry, and commerce. The Institute consists of an Office of Standard Reference Data and a group of divisions organized by the following areas of science and engineering:

Applied Mathematics—Electricity—Metrology—Mechanics—Heat—Atomic Physics—Cryogenics[2]—Radio Physics[2]—Radio Engineering[2]—Astrophysics[2]—Time and Frequency.[2]

THE INSTITUTE FOR MATERIALS RESEARCH conducts materials research leading to methods, standards of measurement, and data needed by industry, commerce, educational institutions, and government. The Institute also provides advisory and research services to other government agencies. The Institute consists of an Office of Standard Reference Materials and a group of divisions organized by the following areas of materials research:

Analytical Chemistry—Polymers—Metallurgy — Inorganic Materials — Physical Chemistry.

THE INSTITUTE FOR APPLIED TECHNOLOGY provides for the creation of appropriate opportunities for the use and application of technology within the Federal Government and within the civilian sector of American industry. The primary functions of the Institute may be broadly classified as programs relating to technological measurements and standards and techniques for the transfer of technology. The Institute consists of a Clearinghouse for Scientific and Technical Information,[3] a Center for Computer Sciences and Technology, and a group of technical divisions and offices organized by the following fields of technology:

Building Research—Electronic Instrumentation — Technical Analysis — Product Evaluation—Invention and Innovation— Weights and Measures — Engineering Standards—Vehicle Systems Research.

THE CENTER FOR RADIATION RESEARCH engages in research, measurement, and application of radiation to the solution of Bureau mission problems and the problems of other agencies and institutions. The Center for Radiation Research consists of the following divisions:

Reactor Radiation—Linac Radiation—Applied Radiation—Nuclear Radiation.

---

[1] Headquarters and Laboratories at Gaithersburg, Maryland, unless otherwise noted; mailing address Washington, D. C. 20234.

[2] Located at Boulder, Colorado 80302.

[3] Located at 5285 Port Royal Road, Springfield, Virginia 22151.

U.S. GOVERNMENT PRINTING OFFICE : 1968 OL—325-462

NBS TECHNICAL PUBLICATIONS

PERIODICALS

JOURNAL OF RESEARCH reports National Bureau of Standards research and development in physics, mathematics, chemistry, and engineering. Comprehensive scientific papers give complete details of the work, including laboratory data, experimental procedures, and theoretical and mathematical analyses. Illustrated with photographs, drawings, and charts.

Published in three sections, available separately:

• Physics and Chemistry

Papers of interest primarily to scientists working in these fields. This section covers a broad range of physical and chemical research, with major emphasis on standards of physical measurement, fundamental constants, and properties of matter. Issued six times a year. Annual subscription: Domestic, $6.00; foreign, $7.25*.

• Mathematical Sciences

Studies and compilations designed mainly for the mathematician and theoretical physicist. Topics in mathematical statistics, theory of experiment design, numerical analysis, theoretical physics and chemistry, logical design and programming of computers and computer systems. Short numerical tables. Issued quarterly. Annual subscription: Domestic, $2.25; foreign, $2.75*.

• Engineering and Instrumentation

Reporting results of interest chiefly to the engineer and the applied scientist. This section includes many of the new developments in instrumentation resulting from the Bureau's work in physical measurement, data processing, and development of test methods. It will also cover some of the work in acoustics, applied mechanics, building research, and cryogenic engineering. Issued quarterly. Annual subscription: Domestic, $2.75; foreign, $3.50*.

TECHNICAL NEWS BULLETIN

The best single source of information concerning the Bureau's research, developmental, cooperative and publication activities, this monthly publication is designed for the industry-oriented individual whose daily work involves intimate contact with science and technology—*for engineers, chemists, physicists, research managers, product-development managers, and company executives.* Annual subscription: Domestic, $3.00; foreign, $4.00*.

NONPERIODICALS

Applied Mathematics Series. Mathematical tables, manuals, and studies.

Building Science Series. Research results, test methods, and performance criteria of building materials, components, systems, and structures.

Handbooks. Recommended codes of engineering and industrial practice (including safety codes) developed in cooperation with interested industries, professional organizations, and regulatory bodies.

Special Publications. Proceedings of NBS conferences, bibliographies, annual reports, wall charts, pamphlets, etc.

Monographs. Major contributions to the technical literature on various subjects related to the Bureau's scientific and technical activities.

National Standard Reference Data Series. NSRDS provides quantitative data on the physical and chemical properties of materials, compiled from the world's literature and critically evaluated.

Product Standards. Provide requirements for sizes, types, quality and methods for testing various industrial products. These standards are developed cooperatively with interested Government and industry groups and provide the basis for common understanding of product characteristics for both buyers and sellers. Their use is voluntary.

Technical Notes. This series consists of communications and reports (covering both other agency and NBS-sponsored work) of limited or transitory interest.

Federal Information Processing Standards Publications. This series is the official publication within the Federal Government for information on standards adopted and promulgated under the Public Law 89-306, and Bureau of the Budget Circular A-86 entitled, Standardization of Data Elements and Codes in Data Systems.

CLEARINGHOUSE

The Clearinghouse for Federal Scientific and Technical Information, operated by NBS, supplies unclassified information related to Government-generated science and technology in defense, space, atomic energy, and other national programs. For further information on Clearinghouse services, write:

Clearinghouse
U.S. Department of Commerce
Springfield, Virginia 22151

*Difference in price is due to extra cost of foreign mailing.

Order NBS publications from:

Superintendent of Documents
Government Printing Office
Washington, D.C. 20402

Announcing—The Federal Information Processing Standards Publications Series

Each of the publications of this series carries the short identifier FIPS PUB. At the time of this publication the following FIPS PUBS have been issued:

- FIPS PUB 0. General Description of the FEDERAL INFORMATION PROCESSING STANDARDS REGISTER. 20 cents.
- *FIPS PUB 1. Code for Information Interchange, (Hardware Standard, Interchange codes and media). 10 cents.
- *FIPS PUB 2. Perforated Tape Code for Information Interchange, (Hardware Standard, Interchange codes and media). 10 cents.
- *FIPS PUB 3. Recorded Magnetic Tape for Information Interchange (800 CPI, NRZI), (Hardware Standard, Interchange codes and media). 10 cents.
- FIPS PUB 4. Calendar Date, (Federal General Data Standard, Representations and codes). 20 cents.
- FIPS PUB 5. States of the United States, (Federal General Data Standard, Representations and codes). 20 cents.
- FIPS PUB 6. Counties of the States of the United States, (Federal General Data Standard, Representations and codes). 40 cents.

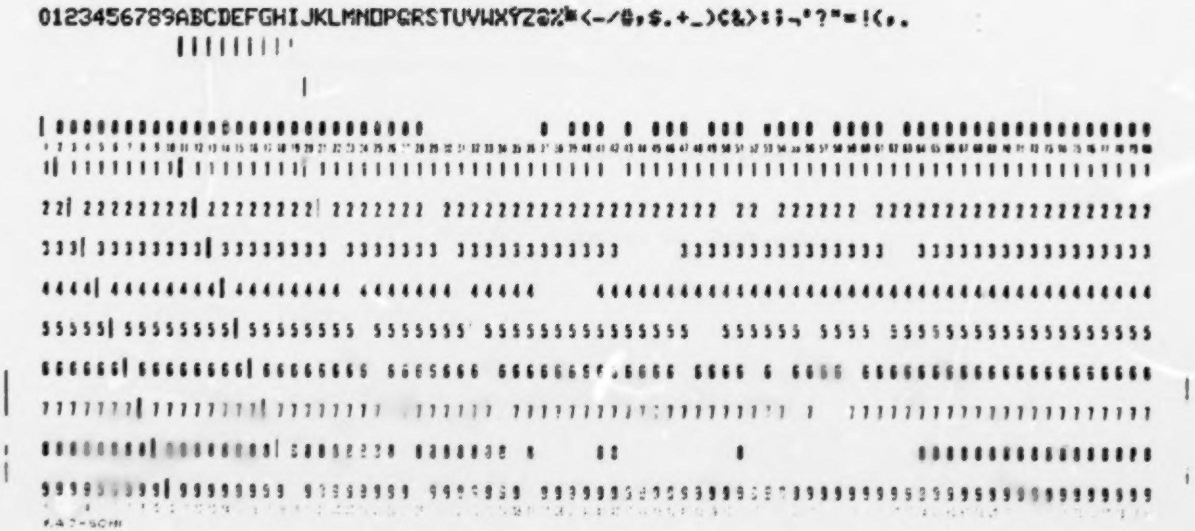
How to Purchase

Send orders with remittance to: Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. There is a 25 percent discount on quantities of 100 or more. The FIPS PUBS noted with an asterisk (*) provide only policy, administrative, and guidance information relative to the implementation and utilization of the standards. The technical specifications of the standards (identified as FIPS 1, 2, 3) can be obtained from the following sources: (1) Federal Government activities should obtain copies from established sources within their organizations. If not available, purchase orders should be submitted to the General Services Administration, Specifications Activity, Printed Materials Supply Division, Building 197, Naval Weapons Plant, Washington, D.C. 20402. Refer to FIPS 1 (40 cents), FIPS 2 (45 cents) and FIPS 3 (70 cents). (2) All others should obtain copies from the United States of America Standards Institute, 10 East 40th Street, New York, N.Y. 10016. Refer to USA Standards X3.4-1968 ($2.00), X3.6-1965 ($1.50) and X3.22-1967 ($2.50) for FIPS 1, 2, and 3, respectively.

A complete list of the publications issued in the FEDERAL INFORMATION PROCESSING STANDARDS PUBLICATIONS series can be obtained by writing to the National Bureau of Standards, Office for Technical Information and Publications, Washington, D.C. 20234.

Notification of new publications in this series can be arranged by sending your name and mailing address (include Zip Code) to the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. Refer to Notification Key N-377.

Subscription service for new publications and supplements in the series is also available from the Superintendent of Documents for an indefinite period.



0123456789ABCDEFGHIJKLMNOPQRSTUVWXYZ@%*<-/#,$.+_)¢&>:;¬'?"=!(,.

Reproduced from best available copy.

Appendix G-1

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
00001	HSAMPLOC FT FROM RT BANK	XXXXXX.X	X-SEC. LOC., HORIZ (FT. FROM R BANK LOOK UPSTR.)
00002	HSAMPLOC % FROM RT BANK	XXXXXX.X	X-SEC. LOC., HORIZ (% FROM R BANK LOOK UPSTR.)
00003	VSAMPLOC DEPTH FEET	XXXXXX.X	SAMPLING STATION LOCATION, VERTICAL (FEET)
00004	STREAM WIDTH FEET	XXXXXXXX	STREAM WIDTH (FEET)
00005	VSAMPLOC DEPTH % OF TOT	XXXXXXXX	X-SEC. LOC., VERTICAL (PERCENT OF TOTAL DEPTH)
00008	LAB IDENT. NUMBER	XXXXXXXX	NUMBER USED IN SAMPLE ACCOUNTING PROCEDURE
00010	WATER TEMP CENT	XXXXXX.X	TEMPERATURE, WATER (DEGREES CENTIGRADE)
00011	WATER TEMP FAHN	XXXXXX.X	TEMPERATURE, WATER (DEGREES FAHRENHEIT)
00020	AIR TEMP CENT	XXXXXX.X	TEMPERATURE, AIR (DEGREES CENTIGRADE)
00025	BAROMTRC PRESSURE MM OF HG	XXXXXXXX	BAROMETRIC PRESSURE (MM OF HG)
00030	INCDT LT SURF C/SQCM/D	XXXXXXXX	INCIDENT LIGHT, SUNLIGHT RADIATION INTENSITY
00031	INCDT LT REMNING PERCENT	XXXXXX.X	INCIDENT LIGHT, PERCENT REMAING AT CERTAIN DEPTH
00032	CLOUD COVER PERCENT	XXXXXXXX	CLOUD COVER (PERCENT)

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
00035	WIND VELOCITY MPH	XXXXXX.X	WIND VELOCITY (MILES PER HOUR)
00036	WIND DIR.FROM NORTH-0	XXXXXXXX	WIND DIRECTION IN DEGREES FROM TRUE N (CLOCKWI)
00040	WIND DIRECT AZIMUTH	XXXXXXXX	WIND DIRECTION, AZIMUTH
00045	PRECIP TOT DAY IN	XXXXX.XX	PRECIPITATION, TOTAL (INCHES PER DAY)
00050	EVAP TOT DAY IN	XXXXX.XX	EVAPORATION, TOTAL (INCHES PER DAY)
00052	RELATIVE HUMIDITY PERCENT	XXXXXX.X	HUMIDITY, RELATIVE (PERCENT)
00054	RESVOIR STORAGE AC-FT	XXXXXXXX	RESERVOIR STORAGE - ACREA FEET
00055	STREAM VELOCITY FT/SEC	XXXXXX.X	STREAM VELOCITY (FEET PER SECOND)
00060	STREAM FLOW CUFT/SEC	XXXXXXXX	STREAM FLOW (CUBIC FEET PER SECOND)
00062	WATER SURF ELE IN FEET	XXXXXX.X	RESERVOIR SURFACE WATER ELEVATION IN FEET
00065	STREAM STAGE FEET	XXXXXX.X	STREAM STAGE (FEET)
00067	TIDE STAGE CODE	XXXXXXXX	STAGE, TIDE (REFER TO APPENDIX FOR CODES)
00070	TURB JKSN JU	XXXXXXXX	TURBIDITY, JACKSON CANDLE (JACKSON UNITS)

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
00075	TURB HLGE PPMSIO2	XXXXXX.X	TURBIDITY, HELLIGE (PPM AS SILICON DIOXIDE)
00076	TURB N METER	XXXXXX.X	
00077	TRANSP SECCHI INCHES	XXXXXXXX	TRANSPARENCY, SECCHI DISC (INCHES)
00030	COLOR PT-CO UNITS	XXXXXXXX	COLOR (PLATINUM-COBALT UNITS)
00085	ODOR THRESH NUMBER	XXXXXX.X	ODOR (THRESHOLD NUMBER)
00090	REDOX ORP MV	XXXXXXXX	OXIDATION REDUCTION POTENTIAL (MILLIVOLTS)
00095	CNDUCTVY AT 25C MICROMHO	XXXXXXXX	CONDUCTIVITY (MICROMHOS AT 25 DEG C)
00096	SALINITY AT 25C MG/ML	XXXXXXXX	SALINITY AT 25 DEGREES C -MG/ML
00110	SLUDGBED AREA SQ FT	XXXXXXXX	SLUDGE BED (AREA IN SQUARE FEET)
00112	SLUDGBED AV DEPTH FT	XXXXXX.X	SLUDGE BED (AVERAGE DEPTH 15 FEET)
00300	DO MG/L	XXXXXX.X	DISSOLVED OXYGEN (MG/L)
00301	DO SATUR PERCENT	XXXXXX.X	DISSOLVED OXYGEN (PERCENT OF SATURATION)
00302	IODD MG/L	XXXXXX.X	IMMEDIATE OXYGEN DEMAND (MG/L)

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
00303	BOD 1 DAY MG/L	XXXX.XXX	BIOCHEMICAL OXYGEN DEMAND (MG/L, 1 DAY - 20 C)
00304	BOD 2 DAY MG/L	XXXXXX.X	BIOCHEMICAL OXYGEN DEMAND (MG/L, 2 DAY - 20 C)
00305	BOD 3 DAY MG/L	XXXXXX.X	BIOCHEMICAL OXYGEN DEMAND (MG/L, 3 DAY - 20DEG C)
00310	BOD 5 DAY MG/L	XXXXXX.X	BIOCHEMICAL OXYGEN DEMAND (MG/L, 5 DAY - 20DEG C)
00311	DISS BOD 5 DAY MG/L	XXXXXX.X	DISSOLVED 5 DAY BOD - MG/L
00315	BOD 7 DAY MG/L	XXXXXX.X	BIOCHEMICAL OXYGEN DEMAND (MG/L, 7 DAY - 20DEG C)
00317	BOD 9 DAY MG/L	XXXXXX.X	BIOCHEMICAL OXYGEN DEMAND (MG/L, 9 DAY - 20DEG C)
00320	BOD ULT FRST MG/L	XXXXXX.X	BIOCHEMICAL OXYGEN DEMAND (MG/L ULT. FIRST STAGE)
00322	BOD 10 DAY MG/L	XXXXXX.X	BIOCHEMICAL OXYGEN DEMAND (MG/L, 10 DAY-20 DEG C)
00323	BOD 15 DAY MG/L	XXXXXX.X	BIOCHEMICAL OXYGEN DEMAND (MG/L, 15DAY - 20 DEG C
00324	BOD 20 DAY MG/L	XXXXXX.X	BIOCHEMICAL OXYGEN DEMAND (MG/L, 20DAY - 20DEG C)
00325	DEOXY K1 BASE E PER DAY	XXXXX.XX	DEOXYGENATION CONSTANT K1 TO BASE E (PER DAY)
00330	REOXY K2 BASE E PER DAY	XXXXX.XX	REOXYGENATION CONSTANT K2 TO BASE E (PER DAY)

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
00335	COD LOWLEVEL MG/L	XXXXXX.X	CHEMICAL OXYGEN DEMAND, .025N K2CR07 (MG/L)
00340	COD HI LEVEL MG/L	XXXXXXXX	CHEMICAL OXYGEN DEMAND, .25N K2CR07 (MG/L)
00365	CL2DMND 15 MIN MG/L	XXXXXX.X	CHLORINE DEMAND, 15 MINUTE (MG/L)
00365	CL2DMND 30 MIN MG/L	XXXXXX.X	CHLORINE DEMAND, 30 MINUTE (MG/L)
00370	CL2DMND 1 HR MG/L	XXXXXX.X	CHLORINE DEMAND, 1 HOUR (MG/L)
00375	CL2DMND 2 HR MG/L	XXXXXX.X	CHLORINE DEMAND, 2 HOUR (MG/L)
00380	CL2DMND 24 HR MG/L	XXXXXX.X	CHLORINE DEMAND, 24 HOUR (MG/L)
00400	PH S U	XXXXX.XX	PH (STANDARD UNITS)
00403	LAB PH SU	XXXXXX.X	PH (STANDARD UNITS) LAB
00405	CO2 MG/L	XXXXXX.X	CARBON DIOXIDE (MG/L AS CO2)
00410	T ALK CACO3 MG/L	XXXXXXXX	ALKALINITY, TOTAL (MG/L AS CACO3)
00415	PHEN-PH- LEIN ALK MG/L	XXXXXXXX	PHENOLPHTALEIN ALKALINITY (MG/L)
00420	OH ALK CACO3 MG/L	XXXXXXXX	ALKALINITY, HYDROXIDE (MG/L AS CACO3)

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
00425	HCO3 ALK CACO3 MG/L	XXXXXXXX	ALKALINITY, BICARBONATE (MG/L AS CACO3)
00430	CO3 ALK CACO3 MG/L	XXXXXXXX	ALKALINITY, CARBONATE (MG/L AS CACO3)
00435	T ACIDITY CACO3 MG/L	XXXXXXXX	ACIDITY, TOTAL (MG/L AS CACO3)
00436	ACIDITY MINERAL MG/L	XXXXXXXX	ACIDITY, MINERAL (METHYL ORANGE) (MG/L AS CACO3)
00437	ACIDITY FROM CO2 MG/L	XXXXXXXX	ACIDITY, CO2 (PHENOLPHTHALEIN) (MG/L AS CACO3)
00440	HCO3 ION HCO3 MG/L	XXXXXXXX	BICARBONATE ION (MG/L AS HCO3)
00445	CO3 ION CO3 MG/L	XXXXXXXX	CARBONATE ION (MG/L AS CO3)
00480	SALINITY PPTH	XXXXXX.X	SALINITY - PARTS PER THOUSAND
00500	RESIDUE TOTAL MG/L	XXXXXXXX	RESIDUE, TOTAL (MG/L)
00505	RESIDUE TOT VOL MG/L	XXXXXXXX	RESIDUE, TOTAL VOLATILE (MG/L)
00510	RESIDUE TOT FIX MG/L	XXXXXXXX	RESIDUE, TOTAL FIXED (MG/L)
00515	RESIDUE TOT FLT MG/L	XXXXXXXX	RESIDUE, TOTAL FILTRABLE (MG/L)
00520	RESIDUE VOL FLT MG/L	XXXXXXXX	RESIDUE, VOLATILE FILTRABLE (MG/L)

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
00525	RESIDUE FIX FLT MG/L	XXXXXXXX	RESIDUE, FIXED FILTRABLE (MG/L)
00530	RESIDUE TOT NFLT MG/L	XXXXXXXX	RESIDUE, TOTAL NONFILTRABLE (MG/L)
00535	RESIDUE VOL NFLT MG/L	XXXXXXXX	RESIDUE, VOLATILE NONFILTRABLE (MG/L)
00540	RESIDUE FIX NFLT MG/L	XXXXXXXX	RESIDUE, FIXED NONFILTRABLE (MG/L)
00543	RESIDUE FIX SET MG/L	XXXXXXXX	RESIDUE, FIXED SETTLEABLE (MG/L)
00544	RESIDUE VOL SET MG/L	XXXXXXXX	RESIDUE, VOLATILE SETTLEABLE (MG/L)
00545	RESIDUE SETTLBLE ML/L	XXXXXXXX	RESIDUE, SETTLABLE (ML/L)
00546	RESIDUE SETTLBE MG/L	XXXX.XXX	RESIDUE, SETTLABLE (MG/1)
00547	RESIDUE TOT NSET MG/L	XXXX.XXX	RESIDUE, TOTAL NON-SETTLEABLE (MG/L)
00548	RESIDUE FIX NSET MG/L	XXXXXXXX	RESIDUE, FIXED NONSETTLEABLE (MG/L)
00549	RESIDUE VOL NSET MG/L	XXXXXXXX	RESIDUE, VOLATILE NONSETTLEABLE (MG/L)
00550	OIL GRSE TOTAL MG/L	XXXXXX.X	OIL-GREASE, TOTAL (MG/L)
00570	BIOMASS PLANKTON ML/L	XXXXXXXX	BIOMASS, PLANKTON (ML/L)

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
00571	BIOMASS BENTHIC G/SQ M	XXXXXXXX	BIOMASS, BENTHIC (GRAMS PER SQUARE METER)
00600	TOTAL N N MG/L	XXXXX.XX	NITROGEN, TOTAL (MG/L AS N)
00605	ORG N N MG/L	XXXXX.XX	NITROGEN, ORGANIC (MG/L AS N)
00607	ORG N DISS-N MG/L	XXXXX.XX	NITROGEN, ORGANIC DISS (MG/L AS N)
00610	AMMONIA NH3-N MG/L	XXXX.XXX	NITROGEN, AMMONIA (MG/L AS N)
00615	NITRITE NO2-N MG/L	XXXX.XXX	NITRITE (MG/L AS N)
00620	NITRATE NO3-N MG/L	XXXXX.XX	NITRATE (MG/L AS N)
00625	TOT KJEL N MG/L	XXXX.XXX	NITROGEN, TOTAL KJELDAHL, (MG/1 AS N)
00630	NO2&NO3 N MG/L	XXXXXX.X	NITRITE PLUS NITRATE, ONE DETERM. (MG/L AS N)
00635	NH3&ORG N-TOTAL MG/L	XXXXXX.X	NITROGEN, AMMONIA&ORG., TOTAL 1 DET (MG/L AS N)
00636	NH3&ORG N-DISS. MG/L	XXXXXX.X	NITROGEN, AMMONIA&ORG., TOTAL 1 DET (MG/L AS N)
00650	T PO4 PO4 MG/L	XXXXX.XX	PHOSPHATE, TOTAL (MG/L AS PO4)
00653	SOLPO4-T PO4 MG/L	XXXXX.XX	PHOSPHATE, TOTAL SOLUBLE (MG/L)

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
00655	POLY PO4 PO4 MG/L	XXXXX.XX	PHOSPHATE, POLY (MG/L AS PO4)
00660	ORTHOPO4 PO4 MG/L	XXXXX.XX	PHOSPHATE, ORTHO (MG/L AS PO4)
00665	PHOS-T P-WET MG/L	XXXXX.XX	PHOSPHOROUS, TOTAL, WET METHOD (MG/L AS P)
00666	PHOS-D P-WET MG/L	XXXXX.XX	PHOSPHOROUS, DISS., WET METHOD (MG/L AS P)
00680	T ORG C C MG/L	XXXXXX.X	CARBON, TOTAL ORGANIC (MG/L AS C)
00681	D ORG C C MG/L	XXXXXX.X	CARBON, DISSOLVED ORGANIC (MG/L AS C)
00720	CYANIDE CN MG/L	XXXXX.XX	CYANIDE (MG/L AS CN)
00740	SULFITE SO3 MG/L	XXXXXX.X	SULFITE (MG/L AS SO3)
00745	SULFIDE S MG/L	XXXXX.XX	SULFIDE (MG/L AS S)
00746	SULFIDE DISOLVED MG/L	XXXXX.XX	SULFIDE, DISSOLVED (MG/L AS S)
00760	SWL PBI MG/L	XXXXXXXX	SULFITE WASTE LIQUOR, PEARL BENSON INDEX (MG/L)
00900	TOT HARD CACO3 MG/L	XXXXXXXX	HARDNESS, TOTAL (MG/L AS CACO3)
00901	C HARD CACO3 MG/L	XXXXXXXX	HARDNESS, CARBONATE (MG/L AS CACO3)

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
00902	NC HARD CACO3 MG/L	XXXXXXXX	HARDNESS, NON-CARBONATE (MG/L AS CACO3)
00910	CALCIUM CACO3 MG/L	XXXXXX.X	CALCIUM (MG/L AS CACO3)
00915	CALCIUM CA,DISS MG/L	XXXXXX.X	CALCIUM, DISSOLVED (MG/L AS CA)
00920	MGNSIUM CACO3 MG/L	XXXXXX.X	MAGNESIUM (MG/L AS CACO3)
00925	MGNSIUM MG,DISS MG/L	XXXXXX.X	MAGNESIUM, DISSOLVED (MG/L AS MG)
00930	SODIUM NA,DISS MG/L	XXXXX.XX	SODIUM, DISSOLVED (MG/L AS NA)
00931	SODIUM ADSRTION RATIO	XXXXXX.X	SODIUM ADSORPTION RATIO
00932	PERCENT SODIUM %	XXXXXXXX	SODIUM, PERCENT
00933	NA+K MG/L	XXXXX.XX	SODIUM,PLUS POTASSIUM (MG/L)
00935	PTSSIUM K,DISS MG/L	XXXXX.XX	POTASSIUM, DISSOLVED (MG/L AS K)
00940	CHLORIDE CL MG/L	XXXXXXXX	CHLORIDE (MG/L AS CL)
00945	SULFATE SO4 MG/L	XXXXXXXX	SULFATE (MG/L AS SO4)
00950	FLUORIDE F,DISS MG/L	XXXXX.XX	FLUORIDE, DISSOLVED (MG/L AS F)

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
00955	SILICA SIO2 MG/L	XXXXXX.X	SILICA, TOTAL (MG/L AS SIO2)
00956	SILICA DISSOLVED MG/L	XXXXXX.X	SILICA DISSOLVED (MG/L AS SIO2)
01000	ARSENIC AS,DISS UG/L	XXXXXXXX	ARSENIC, DISSOLVED UG/L AS AS)
01005	BARIUM BA,DISS UG/L	XXXXXXXX	BARIUM, DISSOLVED (UG/L AS BA)
01010	BERYLIUM BE,DISS UG/L	XXXXX.XX	BERYLLIUM, DISSOLVED (UG/L AS BE)
01015	BISMUTH BI,DISS UG/L	XXXXXXXX	BISMUTH, DISSOLVED (UG/L AS BI)
01020	BORON B,DISS UG/L	XXXXXXXX	BORON, DISSOLVED (UG/L AS B)
01025	CADMIUM CD,DISS UG/L	XXXXXXXX	CADMIUM, DISSOLVED (UG/L AS CD)
01030	CHROMIUM CR,DISS UG/L	XXXXXXXX	CHROMIUM, DISSOLVED (UG/L AS CR)
01032	CHROMIUM HEX-VAL UG/L	XXXXXXXX	CHROMIUM, HEXAVALENT (UG/L AS CR)
01033	CHROMIUM TRI-VAL UG/L	XXXXXXXX	CHROMIUM, TRI-VAL (UG/L AS CR)
01035	COBALT CO UG/L	XXXXXXXX	COBALT (UG/L AS CO)
01040	COPPER CU UG/L	XXXXXXXX	COPPER (UG/L AS CU)

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
01045	IRON TOTAL UG/L	XXXXXXXX	IRON, TOTAL (UG/L AS FE)
01046	IRON FE,DISS UG/L	XXXX.XXX	IRON, DISSOLVED (UG/L)
01047	FERROUS IRON UG/L	XXXXXXXX	IRON, FERROUS (UG/L)
01048	FE-DISS IC&OUS UG/L	XXXXXXXX	IRON, FERRIC & FERROUS-DISS (UG/L)
01049	LEAD PB,DISS UG/L	XXXXXXXX	LEAD, DISSOLVED (UG/L AS PB)
01055	MANGNESE MN UG/L	XXXXXX.X	MANGANESE, TOTAL (UG/L AS MN)
01056	MANGNESE MN,DISS UG/L	XXXXXX.X	MANGANESE, DISSOLVED (UG/L AS MN)
01060	MOLY MO,DISS UG/L	XXXXXXXX	MOLYBDENUM, DISSOLVED (UG/L AS MO)
01065	NICKEL NI,DISS UG/L	XXXXXXXX	NICKEL, DISSOLVED (UG/L AS NI)
01070	PHOS-T P-SPEC UG/L	XXXXXXXX	PHOSPHOROUS, TOTAL, SPECTROGRAPH METH (UG/L AS P)
01075	SILVER AG,DISS UG/L	XXXXXX.X	SILVER, DISSOLVED (UG/L AS AG)
01080	STRONTUM SR,DISS UG/L	XXXXXXXX	STRONTIUM, DISSOLVED (UG/L AS SR)
01085	VANADIUM V,DISS UG/L	XXXXXXXX	VANADIUM, DISSOLVED (UG/L AS V)

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
01090	ZINC ZN,DISS UG/L	XXXXXXXX	ZINC, DISSOLVED (UG/L AS ZN)
01095	ANTIMONY SB,DISS UG/L	XXXXXXXX	ANTIMONY, DISSOLVED (UG/L AS SB)
01100	TIN SN,DISS UG/L	XXXXXXXX	TIN, DISSOLVED (UG/L AS SN)
01105	ALUMINUM AL,DISS UG/L	XXXXXXXX	ALUMINUM, DISSOLVED (UG/L AS AL)
01110	CERIUM CE,DISS UG/L	XXXXXXXX	CERIUM, DISSOLVED (UG/L AS CE)
01115	CESIUM CS,DISS UG/L	XXXXXXXX	CESIUM, DISSOLVED (UG/L AS CS)
01120	GALLIUM GA,DISS UG/L	XXXXXXXX	GALLIUM, DISSOLVED (UG/L AS GA)
01125	GERMANUM GE,DISS UG/L	XXXXXXXX	GERMANIUM, DISSOLVED (UG/L AS GE)
01130	LITHIUM LI,DISS UG/L	XXXXXXXX	LITHIUM, DISSOLVED (UG/L AS LI)
01135	RUBIDIUM RB,DISS UG/L	XXXXXXXX	RUBIDIUM, DISSOLVED (UG/L AS RB)
01140	SILICON SI,DISS UG/L	XXXXXXXX	SILICON, DISSOLVED (UG/L AS SI)
01145	SELENIUM SE,DISS UG/L	XXXXXXXX	SELENIUM, DISSOLVED (UG/L AS SE)
01150	TITANIUM TI,DISS UG/L	XXXXXXXX	TITANIUM, DISSOLVED (UG/L AS TI)

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
01155	TUNGSTEN T,DISS UG/L	XXXXXXXX	TUNGSTEN, DISSOLVED (UG/L AS W)
01160	ZIRCONUM ZR,DISS UG/L	XXXXXXXX	ZIRCONIUM, DISSOLVED (UG/L AS ZR)
01300	OIL-GRSE SEVERITY	XXXXXXXX	OIL-GREASE (SEVERITY)
01305	DET SUDS SEVERITY	XXXXXXXX	DETERGENT SUDS (SEVERITY)
01310	GAS BBLE SEVERITY	XXXXXXXX	GAS BUBBLES (SEVERITY)
01315	FLOATING SLUDGE SEVERITY	XXXXXXXX	SLUDGE, FLOATING (SEVERITY)
01320	FLOATING GARBAGE SEVERITY	XXXXXXXX	GARBAGE, FLOATING (SEVERITY)
01325	FLOATING ALG MAT SEVERITY	XXXXXXXX	ALGAE, FLOATING MATS (SEVERITY)
01330	ODOR ATMOSPH SEVERITY	XXXXXXXX	ODOR, ATMOSPHERIC (SEVERITY)
01335	FLOATING SEWG SOL SEVERITY	XXXXXXXX	SEWAGE SOLIDS, FRESH, FLOATING (SEVERITY)
01340	DEAD FISH SEVERITY	XXXXXXXX	FISH, DEAD (SEVERITY)
01345	FLOATING DEBRIS SEVERITY	XXXXXXXX	DEBRIS, FLOATING (SEVERITY)
01350	TURBID SEVERITY	XXXXXXXX	TURBIDITY (SEVERITY)

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
01355	ICE COVER SEVERITY	XXXXXXXX	ICE COVER, FLOATING OR SOLID (SEVERITY)
01501	ALPHA TOTAL PC/L	XXXXXXXX	ALPHA, TOTAL
01502	ALPHA-T ERROR PC/L	XXXXXXXX	ALPHA, TOTAL, COUNTING ERROR
01503	ALPHA DISOLVED PC/L	XXXXXXXX	ALPHA, DISSOLVED
01504	ALPHA-D ERROR PC/L	XXXXXXXX	ALPHA, DISSOLVED, COUNTING ERROR
01505	ALPHA SUSP PC/L	XXXXXXXX	ALPHA, SUSPENDED
01506	ALPHA-S ERROR PC/L	XXXXXXXX	ALPHA, SUSPENDED, COUNTING ERROR
01507	ALPHA SEDIMENT PC/G	XXXXXXXX	ALPHA, GROSS IN SEDIMENT (PC/G OF DRY SOLIDS)
01508	ALPHA SED-ERR PC/G	XXXXXXXX	ALPHA, GROSS IN SEDIMENT, COUNTING ERROR
01509	ALPHA ACTIVITY PC/GM	XXXXXXXX	ALPHA, SPECIFIC ACTIVITY (PC/GM OF SUSP. SOLIDS)
03501	BETA TOTAL PC/L	XXXXXXXX	BETA, TOTAL
03502	BETA-T ERROR PC/L	XXXXXXXX	BETA, TOTAL, COUNTING ERROR
03503	BETA DISOLVED PC/L	XXXXXXXX	BETA, DISSOLVED

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
03504	BETA-D ERROR PC/L	XXXXXXXX	BETA, DISSOLVED, COUNTING ERROR
03505	BETA SUSP PC/L	XXXXXXXX	BETA, SUSPENDED
03506	BETA-S ERROR PC/L	XXXXXXXX	BETA, SUSPENDED, COUNTING ERROR
03507	BETA SEDIMENT PC/G	XXXXXXXX	BETA, GROSS IN SEDIMENT (PC/G OF DRY SOLIDS)
03508	BETA SED-ERR PC/G	XXXXXXXX	BETA, GROSS IN SEDIMENT, COUNTING ERROR
03509	BETA ACTIVITY PC/GM	XXXXXXXX	BETA, SPECIFIC ACTIVITY (PC/GM OF SUSP. SOLIDS)
05501	GAMMA TOTAL PC/L	XXXXXXXX	GAMMA, TOTAL
05502	GAMMA-T ERROR PC/L	XXXXXXXX	GAMMA, TOTAL, COUNTING ERROR
05503	GAMMA DISSOLVED PC/L	XXXXXXXX	GAMMA, DISSOLVED
05504	GAMMA-D ERROR PC/L	XXXXXXXX	GAMMA, DISSOLVED, COUNTING ERROR
05505	GAMMA SUSP PC/L	XXXXXXXX	GAMMA, SUSPENDED
05506	GAMMA-S ERROR PC/L	XXXXXXXX	GAMMA, SUSPENDED, COUNTING ERROR
09501	RA-226 TOTAL PC/L	XXXXXX.X	RADIUM 226, TOTAL

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
09502	RA-226 ERROR PC/L	XXXXXX.X	RADIUM 226, TOTAL, COUNTING ERROR
09503	RA-226 DISOLVED PC/L	XXXX.XXX	RADIUM 226, DISSOLVED
09504	RA-226-D ERROR PC/L	XXXX.XXX	RADIUM 226, DISSOLVED, COUNTING ERROR
09505	RA-226 SUSP PC/L	XXXX.XXX	RADIUM 226, SUSPENDED
09506	RA-226S ERROR PC/L	XXXX.XXX	RADIUM 226, SUSPENDED, COUNTING ERROR
09507	RA-226 SEDIMENT PC/G	XXXXXX.X	RADIUM 226 IN SEDIMENT (PC/G OF DRY SOLIDS)
09508	RA-226 SED-ERR PC/G	XXXXXX.X	RADIUM 226 IN SEDIMENT, COUNTING ERROR
11501	RA-228 TOTAL PC/L	XXXXXX.X	RADIUM 228, TOTAL
11502	RA-228 ERROR PC/L	XXXXXX.X	RADIUM 228, TOTAL, COUNTING ERROR
13501	SR-90 TOTAL PC/L	XXXXXX.X	STRONTIUM 90, TOTAL
13502	SR-90 ERROR PC/L	XXXXXX.X	STRONTIUM 90, TOTAL, COUNTING ERROR
13503	SR-90 DISOLVED PC/L	XXXX.XXX	STRONTIUM90, DISSOLVED
13504	SR/90-D ERROR PC/L	XXXX.XXX	STRONTIUM 90, DISSOLVED, COUNTING ERROR

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
13505	SR-90 SUSP PC/L	XXXX.XXX	STRONTIUM90, SUSPENDED
13506	SR-90-S ERROR PC/L	XXXX.XXX	STRONTIUM90, SUSPENDED, COUNTING ERROR
15501	SR-89 TOTAL PC/L	XXXXXX.X	STRONTIUM 89, TOTAL
15502	SR-89 ERROR PC/L	XXXXXX.X	STRONTIUM 89, TOTAL, COUNTING ERROR
17501	PB-210 TOTAL PC/L	XXXXXX.X	LEAD 210, TOTAL
17502	PB-210 ERROR PC/L	XXXXXX.X	LEAD 210, TOTAL, COUNTING ERROR
17503	PB-210 DISOLVED PC/L	XXXX.XXX	LEAD 210, DISSOLVED
17504	PB-210-D ERROR PC/L	XXXX.XXX	LEAD 210, DISSOLVED, COUNTING ERROR
17505	PB-210 SUSP PC/L	XXXX.XXX	LEAD 210, SUSPENDED
17506	PB-210-S ERROR PC/L	XXXX.XXX	LEAD 210, SUSPENDED, COUNTING ERROR
17507	PB-210 SEDIMENT PC/G	XXXXXX.X	LEAD 210 IN SEDIMENT (PC/G OF DRY SOLIDS)
17508	PB-210 SED-ERR PC/G	XXXXXX.X	LEAD 210 IN SEDIMENT, COUNTING ERROR
16501	I-129 TOTAL PC/L	XXXXXX.X	IODINE 129, TOTAL

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
18502	I-129 ERROR PC/L	XXXXXX.X	IODINE 129, TOTAL, COUNTING ERROR
19501	PO-210 TOTAL PC/L	XXXXXX.X	POLONIUM 210, TOTAL
19502	PO-210 ERROR PC/L	XXXXXX.X	POLONIUM 210, TOTAL, COUNTING ERROR
19503	PO-210 DISSOLVED PC/L	XXXX.XXX	POLONIUM 210, DISSOLVED
19504	PO-210-D ERROR PC/L	XXXX.XXX	POLONIUM 210, DISSOLVED, COUNTING ERROR
19505	PO-210 SUSP PC/L	XXXX.XXX	POLONIUM 210, SUSPENDED
19506	PO-210-S ERROR PC/L	XXXX.XXX	POLONIUM 210, SUSPENDED, COUNTING ERROR
19507	PO-210 SEDIMENT PC/G	XXXXXX.X	POLONIUM 210 IN SEDIMENT (PC/G OF DRY SOLIDS)
19508	PO-210 SED-ERR PC/G	XXXXXX.X	POLONIUM 210 IN SEDIMENT, COUNTING ERROR
20501	RA-223 TOTAL PC/L	XXXXXX.X	RADIUM 223, TOTAL
20502	RA-223 ERROR PC/L	XXXXXX.X	RADIUM 223, TOTAL, COUNTING ERROR
21501	PA-231 TOTAL PC/L	XXXXXXXX	PROTACTINIUM 231, TOTAL
21502	PA-231 ERROR PC/L	XXXXXXXX	PROTACTINIUM 231, TOTAL, COUNTING ERROR

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
22501	TH-232 TOTAL PC/L	XXXXXXXX	THORIUM 232, TOTAL
22502	TH-232 ERROR PC/L	XXXXXXXX	THORIUM 232, TOTAL, COUNTING ERROR
22601	U-238 TOTAL PC/L	XXXXXXXX	URANIUM 238, TOTAL
22602	U-238 ERROR PC/L	XXXXXXXX	URANIUM 238, TOTAL, COUNTING ERROR
22703	U-NAT DISOLVED UG/L	XXXX.XXX	URANIUM, NATURAL, DISSOLVED
22705	U-NAT SUSP UG/L	XXXX.XXX	URANIUM, NATURAL, SUSPENDED
22707	U-NAT SEDIMENT UG/G	XXXXXX.X	URANIUM, NATURAL IN SEDIMENT (UG/G OF DRY SOLIDS)
23501	AT-211 TOTAL PC/L	XXXXXXXX	ASTATINE 211, TOTAL
23502	AT-211 ERROR PC/L	XXXXXXXX	ASTATINE 211, COUNTING ERROR
24501	RA-224 TOTAL PC/L	XXXXXX.X	RADIUM 224, TOTAL
24502	RA-224 ERROR PC/L	XXXXXX.X	RADIUM 224, TOTAL, COUNTING ERROR
25501	AC-227 TOTAL PC/L	XXXXXXXX	ACTINIUM 227, TOTAL
25502	AC-227 ERROR PC/L	XXXXXXXX	ACTINIUM 227, TOTAL, COUNTING ERROR

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
26403	TH-NAT DISSOLVED PC/L	XXXX.XXX	THORIUM, NATURAL, DISSOLVED
26404	TH-NAT-D ERROR PC/L	XXXX.XXX	THORIUM, NATURAL, DISSOLVED, COUNTING ERROR
26405	TH-NAT SUSP PC/L	XXXX.XXX	THORIUM, NATURAL, SUSPENDED
26406	TH-NAT-S ERROR PC/L	XXXX.XXX	THORIUM, NATURAL, SUSPENDED, COUNTING ERROR
26501	TH-230 TOTAL PC/L	XXXXXXXX	THORIUM 230, TOTAL
26502	TH-230 ERROR PC/L	XXXXXXXX	THORIUM 230, TOTAL, COUNTING ERROR
26503	TH-230 DISSOLVED PC/L	XXXX.XXX	THORIUM 230, DISSOLVED
26504	TH-230-D ERROR PC/L	XXXX.XXX	THORIUM 230, DISSOLVED, COUNTING ERROR
26505	TH-230 SUSP PC/L	XXXX.XXX	THORIUM 230, SUSPENDED
26506	TH-230-S ERROR PC/L	XXXX.XXX	THORIUM 230, SUSPENDED, COUNTING ERROR
26507	TH-230 SEDIMENT PC/G	XXXXXX.X	THORIUM 230 IN SEDIMENT (PC/G OF DRY SOLIDS)
26508	TH-230 SED-ERR PC/G	XXXXXX.X	THORIUM 230 IN SEDIMENT, COUNTING ERROR
26603	TH-ALPHA DISSOLVED PC/L	XXXX.XXX	THORIUM, ALPHA, DISSOLVED

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
26604	TH-ALPHA DISS-ERR PC/L	XXXX.XXX	THORIUM, ALPHA, DISSOLVED, COUNTING ERROR
26607	TH-ALPHA SEDIMENT PC/G	XXXXXX.X	THORIUM ALPHA IN SEDIMENT (PC/G OF DRY SOLIDS)
26606	TH-ALPHA SED-ERR PC/G	XXXXXX.X	THORIUM ALPHA IN SEDIMENT, COUNTING ERROR
26623	TH-BETA DISSOLVED PC/L	XXXX.XXX	THORIUM, BETA, DISSOLVED
26624	TH-BETA DISS-ERR PC/L	XXXX.XXX	THORIUM, BETA, DISSOLVED, COUNTING ERROR
26627	TH-BETA SEDIMENT PC/G	XXXXXX.X	THORIUM BETA IN SEDIMENT (PC/G OF DRY SOLIDS)
26628	TH-BETA SED-ERR PC/G	XXXXXX.X	THORIUM BETA IN SEDIMENT, COUNTING ERROR
27501	Y-90 TOTAL PC/L	XXXXXX.X	YTTRIUM 90, TOTAL
27502	Y-90 ERROR PC/L	XXXXXX.X	YTTRIUM 90, TOTAL, COUNTING ERROR
27601	Y-91 TOTAL PC/L	XXXXXX.X	YTTRIUM 91, TOTAL
27602	Y-91 ERROR PC/L	XXXXXX.X	YTTRIUM 91, TOTAL, COUNTING ERROR
27701	ZR-95 TOTAL PC/L	XXXXXXXX	ZIRCONIUM 95, TOTAL
27702	ZR-95 ERROR PC/L	XXXXXXXX	ZIRCONIUM 95, TOTAL, COUNTING ERROR

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
27801	NB-95 TOTAL PC/L	XXXXXXXX	NIOBIUM 95, TOTAL
27802	NB-95 ERROR PC/L	XXXXXXXX	NIOBIUM 95, TOTAL, COUNTING ERROR
27901	RU-103 TOTAL PC/L	XXXXXXXX	RUTHENIUM 103, TOTAL
27902	RU-103 ERROR PC/L	XXXXXXXX	RUTHENIUM 103, TOTAL, COUNTING ERROR
28001	RU-106 TOTAL PC/L	XXXXXXXX	RUTHENIUM 106, TOTAL
28002	RU-106 ERROR PC/L	XXXXXXXX	RUTHENIUM 106, TOTAL, COUNTING ERROR
28101	RH-103 TOTAL PC/L	XXXXXXXX	RHODIUM 103, TOTAL
28102	RH-103 ERROR PC/L	XXXXXXXX	RHODIUM 103, TOTAL, COUNTING ERROR
28201	RH-106 TOTAL PC/L	XXXXXXXX	RHODIUM 106, TOTAL
28202	RH-106 ERROR PC/L	XXXXXXXX	RHODIUM 106, TOTAL, COUNTING ERROR
28301	I-131 TOTAL PC/L	XXXXXX.X	IODINE 131, TOTAL
28302	I-131 ERROR PC/L	XXXXXX.X	IODINE 131, TOTAL, COUNTING ERROR
28401	CS-137 TOTAL PC/L	XXXXXXXX	CESIUM 137, TOTAL

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
28402	CS-137 ERROR PC/L	XXXXXXXX	CESIUM 137, TOTAL, COUNTING ERROR
28501	BA-137 TOTAL PC/L	XXXXXXXX	BARIUM 137, TOTAL
28502	BA-137 ERROR PC/L	XXXXXXXX	BARIUM 137, TOTAL, COUNTING ERROR
28601	BA-140 TOTAL PC/L	XXXXXXXX	BARIUM 140, TOTAL
28602	BA-140 ERROR PC/L	XXXXXXXX	BARIUM 140, TOTAL, COUNTING ERROR
28701	LA-140 TOTAL PC/L	XXXXXXXX	LANTHANUM 140, TOTAL
28702	LA-140 ERROR PC/L	XXXXXXXX	LANTHANUM 140, TOTAL COUNTING ERROR
28801	CE-141 TOTAL PC/L	XXXXXXXX	CERIUM 141, TOTAL
28802	CE-141 ERROR PC/L	XXXXXXXX	CERIUM 141, TOTAL, COUNTING ERROR
28901	CE-144 TOTAL PC/L	XXXXXXXX	CERIUM 144, TOTAL
28902	CE-144 ERROR PC/L	XXXXXXXX	CERIUM 144, TOTAL, COUNTING ERROR
29001	PR-143 TOTAL PC/L	XXXXXXXX	PRASEODYMIUM 143, TOTAL
29002	PR-143 ERROR PC/L	XXXXXXXX	PRASEODYMIUM 143, TOTAL, COUNTING ERROR

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
29101	PR-144 TOTAL PC/L	XXXXXXXX	PRASEODYMIUM 144, TOTAL
29102	PR-144 ERROR PC/L	XXXXXXXX	PRASEODYMIUM 144, TOTAL, COUNTING ERROR
29201	PM-147 TOTAL PC/L	XXXXXXXX	PROMETHEUM 147, TOTAL
29202	PM-147 ERROR PC/L	XXXXXXXX	PROMETHEUM 147, TOTAL, COUNTING ERROR
29301	ZN-65 TOTAL PC/L	XXXXXXXX	ZINC 65, TOTAL
29302	ZN-65 ERROR PC/L	XXXXXXXX	ZINC 65, TOTAL, COUNTING ERROR
29401	CR-51 TOTAL PC/L	XXXXXXXX	CHROMIUM 51, TOTAL
29402	CR-51 ERROR PC/L	XXXXXXXX	CHROMIUM 51, TOTAL, COUNTING ERROR
29501	MN-54 TOTAL PC/L	XXXXXXXX	MANGANESE 54, TOTAL
29502	MN-54 ERROR PC/L	XXXXXXXX	MANGANESE 54, TOTAL, COUNTING ERROR
29601	CO-60 TOTAL PC/L	XXXXXXXX	COBALT 60, TOTAL
29502	CO-60 ERROR PC/L	XXXXXXXX	COBALT 60, TOTAL, COUNTING ERROR
31501	COLIFORM IMEDENDO MF/100ML	XXXXXXXX	COLIFORM, MEMBRANE FILTER, IMMED. M-ENDO MEDIUM

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
31503	COLIFORM DLY ENDO MF/100ML	XXXXXXXX	COLIFORM, MEMBRANE FILTER, DELAYED M-ENDO MEDIUM
31504	COLIFORM LES-AGAR MF/100ML	XXXXXXXX	COLIFORM,MEMBRANE FILTER, IMMED.LES M-ENDO AGAR
31505	COLIFORM MPN CONF /100ML	XXXXXXXX	COLIFORM, MOST PROBABLE NUMBER, CONFIRMED
31506	COLICONF TUBE CODE	.XXXXXXX	COLIFORM, CONFIRMED TEST, TUBE CONFIGURATION
31507	COLIFORM MPN COMP /100ML	.XXXXXXX	COLIFORM, MOST PROBABLE NUMBER, COMPLETED
31508	COLICOMP TUBE CODE	XXXXXXXX	COLIFORM, COMPLETED TEST, TUBE CONFIGURATION
31614	FEC COLI TUBE CODE	XXXXXXXX	FECAL COLIFORM, TUBE CONFIGURATION
31615	E. COLI. EC BR 45 T./100ML	XXXXXXXX	ESCHERICHIA COLI, EC BROTH, INCU. AT 45.5 DEG C
31616	FEC COLI MF-C44.5 MF/100ML	XXXXXXXX	FECAL COLIFORM, MEMB FILT, MF-C BROTH, AT 44.5C
31617	E. COLI. EKMAN.45 T./100ML	XXXXXXXX	ESCHERICHIA COLI, EIJKMAN TEST INCU AT 45.5 DEG C
31619	E. COLI. BALC.R43 T./100ML	XXXXXXXX	ESCHERICHIA COLI, BORIC ACID LACTOSE BROTH TEST
31673	STPCOCCI KF AGR MF/100ML	XXXXXXXX	STREPTOCOCCI, KF AGAR
31675	STPCOCCI KF BROTH /100ML	XXXXXXXX	STREPTOCOCCI, KF BROTH

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
31677	STPCOCCI AD-EVA BR-100ML	XXXXXX.X	STREPTOCOCCI, MULTIPLE TUBE FERMENTATION, AD-EVA
31676	STPCOCCI TUBE CODE	XXXXXX.X	STREPTOCOCCI, TUBE CONFIGURATION
31679	STPCOCCI M-ENTCCS MF/100ML	XXXXXXXX	STREPTOCOCCI, MEMBRANE FILTER M-ENTEROCOCCUS AGAR
31749	T.P.C. 20C 48HR PER ML	XXXXXXXX	TOTAL PLATE COUNT, 20 DEG. CENTIGRADE, 48 HOURS
31751	T.P.C. 35C 24HR PER ML	XXXXXXXX	TOTAL PLATE COUNT, 35 DEG. CENTIGRADE, 24 HOURS
31806	E. COLI BG-MVIC /100ML	XXXXXXXX	
31810	E. COLI EC-IMVIC /100ML	XXXXXXXX	
31814	STPCOCCI EVA-BHI /100ML	XXXXXXXX	
31818	STPCOCCI M-ENTBHI /100ML	XXXXXXXX	
32000	SAMPLE SIZE LITERS	XXXXXXXX	
32001	SAMPLE SIZE GAL	XXXXXXXX	SAMPLE SIZE (GALLONS)
32002	SAMPLE SIZE ML	XXXXXXXX	SAMPLE SIZE (MILLILITERS)
32003	CCE AND CAE UG/L	XXXXXXXX	TOTAL CARBON CHLOROFORM AND CARBON ALCOHOL EXTRS.

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
32004	CAE UG/L	XXXXXXXX	CARBON ALCOHOL EXTRACTABLES
32005	CCE UG/L	XXXXXXXX	CARBON CHLOROFORM EXTRACTABLES
32021	ETHER INSOLUBL UG/L	XXXXXXXX	ETHER INSOLUBLES OF CARBON CHLOROFORM EXTRACTS.
32022	WATER SOLUBLES UG/L	XXXXXXXX	WATER SOLUBLES CF CARBON CHLOROFORM EXTRACTS.
32023	STRONG ACIDS UG/L	XXXXXXXX	STRONG ACIDS
32024	WEAK ACIDS UG/L	XXXXXXXX	WEAK ACIDS
32025	BASES UG/L	XXXXXXXX	BASES
32026	NEUTRALS UG/L	XXXXXXXX	TOTAL NEUTRALS
32027	ALIPHA-TICS UG/L	XXXXXXXX	ALIPHATICS FRACTION OF NEUTRALS
32028	AROMATIC UG/L	XXXXXXXX	AROMATICS FRACTION OF NEUTRALS
32029	OXYGEN-ATES UG/L	XXXXXXXX	OXYGENATED COMPOUNDS FRACTION OF NEUTRALS
32230	CHLRPHYL A MG/L	XXXXXXXX	CHLOROPHYL A (MG/L)
32231	CHLRPHYL B MG/L	XXXXXXXX	CHLOROPHYL B (MG/L)

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
32232	CHLRPHYL C MG/L	XXXXXXXX	CHLOROPHYL C (MG/L)
32234	CHLRPHLY TOTAL MG/L	XXXXXXXX	CHLOROPHYL, TOTAL (A+B+C) (MG/L)
32240	TANNIN LIGNIN MG/L	XXXXXXXX	TANNIN AND LIGNIN (MG/L)
32730	PHENOLS UG/L	XXXX.XXX	PHENOLS (UG/L)
38260	MBAS MG/L	XXXXX.XX	METHYLENE BLUE ACTIVE SUBST. (DETERGENTS, ETC.)
39330	ALDRIN WHL SMPL UG/L	XXXX.XXX	ALDRIN IN WHOLE WATER SAMPLE (UG/L)
39331	ALDRIN FLT FRAC UG/L	XXXX.XXX	ALDRIN IN FILT. FRAC. OF WAT. SAMP. (UG/L)
39332	ALDRIN SUS FRAC UG/L	XXXX.XXX	ALDRIN IN SUSP. FRAC. OF WAT. SAMP. (UG/L)
39333	ALDRIN MUD UG/KG	XXXXX.XX	ALDRIN IN BOTTOM DEPOS. (UG/KILOGRAM DRY SOLIDS)
39340	BHC WHL SMPL UG/L	XXXX.XXX	BENZENE HEXACHLORIDE (LINDANE) WHOLE SAMP. (UG/L)
39341	BHC FLT FRAC UG/L	XXXX.XXX	BENZENE HEXACHLORIDE (LINDANE) FILT. FRAC. (UG/L)
39342	BHC SUS FRAC UG/L	XXXX.XXX	BENZENE HEXACHLORIDE (LINDANE) SUSP. FRAC. (UG/L)
39343	BHC MUD UG/KG	XXXXX.XX	BENZENE HEXACHLORIDE (LINDANE) BOT. DEP. (UG/KG)

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
39350	CHLRDANE WHL SMPL UG/L	XXXX.XXX	CHLORDANE IN WHOLE WATER SAMPLE (UG/L)
39360	DDD WHL SMPL UG/L	XXXX.XXX	DDD IN WHOLE WATER SAMPLE (UG/L)
39361	DDD FLT FRAC UG/L	XXXX.XXX	DDD IN FILT. FRAC. OF WATER SAMPLE (UG/L)
39362	DDD SUS FRAC UG/L	XXXX.XXX	DDD IN SUSP. FRAC. OF WATER SAMPLE (UG/L)
39363	DDD MUD UG/KG	XXXX.XXX	DDD IN BOTTOM DEPOS. (UG/KILOGRAM DRY SOLIDS)
39365	DDE WHL SMPL UG/L	XXXX.XXX	DDE IN WHOLE WATER SAMPLE (UG/L)
39366	DDE FLT FRAC UG/L	XXXX.XXX	DDE IN FILT. FRAC. OF WATER SAMPLE (UG/L)
39367	DDE SUS FRAC UG/L	XXXX.XXX	DDE IN SUSP. FRAC. OF WATER SAMPLE (UG/L)
39368	DDE MUD UG/KG	XXXX.XXX	DDE IN BOTTOM DEPOS. (UG/KILOGRAM DRY SOLIDS)
39370	DDT WHL SMPL UG/L	XXXX.XXX	DDT IN WHOLE WATER SAMPLE (UG/L)
39371	DDT FLT FRAC UG/L	XXXX.XXX	DDT IN FILT. FRAC. OF WATER SAMPLE (UG/L)
39372	DDT SUS FRAC UG/L	XXXX.XXX	DDT IN SUSP. FRAC. OF WATER SAMPLE (UG/L)
39373	DDT MUD UG/KG	XXXXX.XX	DDT IN BOTTOM DEPOS. (UG/KILOGRAM DRY SOLIDS)

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
39380	DIELDRIN WHL SMPL UG/L	XXXX.XXX	DIELDRIN IN WHOLE WATER SAMPLE (UG/L)
39381	DIELDRIN FLT FRAC UG/L	XXXX.XXX	DIELDRIN IN FILT. FRAC. OF WATER SAMPLE (UG/L)
39382	DIELDRIN SUS FRAC UG/L	XXXX.XXX	DIELDRIN IN SUSP. FRAC. OF WATER SAMPLE (UG/L)
39383	DIELDRIN MUD UG/KG	.XXXXXXX	DIELDRIN IN BOTTOM DEPOS. (UG/KILOGRAM DRY SOL.)
39384	DIELDRIN CLAY UG/KG	XXXXX.XX	DIELDRIN IN BOTTOM CLAY (3.9 U MAX), (UG/KG)
39385	DIELDRIN SLT-CLAY UG/KG	XXXXX.XX	DIELDRIN IN BOT. SILT-CLAY (62.5 U MAX), (UG/KG)
39386	DIELDRIN SAND UG/KG	XXXXX.XX	DIELDRIN IN BOTTOM SAND (62.5-1000 U), (UG/KG)
39390	ENDRIN WHL SMPL UG/L	XXXX.XXX	ENDRIN IN WHOLE WATER SAMPLE (UG/L)
39391	ENDRIN FLT FRAC UG/L	XXXX.XXX	ENDRIN IN FILT. FRAC. OF WATER SAMPLE (UG/L)
39392	ENDRIN SUS FRAC UG/L	XXXX.XXX	ENDRIN IN SUSP. FRAC. OF WATER SAMPLE (UG/L)
39393	ENDRIN MUD UG/KG	.XXXXXXX	ENDRIN IN BOTTOM DEPOS. (UG/KILOGRAM DRY SOL9DS)
39394	ENDRIN CLAY UG/KG	XXXXX.XX	ENDRIN IN BOTTOM CLAY (3.9 U MAX), (UG/KG)
39395	ENDRIN SLT-CLAY UG/KG	XXXXX.XX	ENDRIN IN BOTTOM SILT-CLAY (62.5 U MAX), (UG/KG)

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
39394	ENDRIN SAND UG/KG	XXXXX.XX	ENDRIN IN BOTTOM SAND (62.5-1000 U), (UG/KG)
39400	TOXPHENE WHL SMPL UG/L	XXXX.XXX	TOXAPHENE IN WHOLE WATER SAMPLE (UG/L)
39401	TOXPHENE FLT FRAC UG/L	XXXX.XXX	TOXAPHENE IN FILT. FRAC. OF WATER SAMPLE (UG/L)
39402	TOXPHENE SUS FRAC UG/L	XXXX.XXX	TOXAPHENE IN SUSP. FRAC. OF WATER SAMPLE (UG/L)
39403	TOXPHENE MUD UG/KG	XXXXX.XX	TOXAPHENE IN BOTTOM DEPOS. (UG/KILOGRAM DRY SOL.)
39410	HCHLR WHL SMPL UG/L	XXXX.XXX	HEPTACHLOR IN WHOLE WATER SAMPLE (UG/L)
39411	HCHLR FLT FRAC UG/L	XXXX.XXX	HEPTACHLOR IN FILT. FRAC. OF WATER SAMPLE (UG/L)
39412	HCHLR SUS FRAC UG/L	XXXX.XXX	HEPTACHLOR IN SUSP. FRAC. OF WATER SAMPLE (UG/L)
39413	HCHLR MUD UG/KG	XXXXX.XX	HEPTACHLOR IN BOT. DEP. (UG/KILOGRAM DRY SOLIDS)
39420	HCHLR-EP WHL SMPL UG/L	XXXX.XXX	HEPTACHLOR EPOXIDE IN WHOLE WATER SAMPLE (UG/L)
39421	HCHLR-EP FLT FRAC UG/L	XXXX.XXX	HEPTACHLOR EPOXIDE IN FILT. FRAC. WAT SAMP (UG/L)
39422	HCHLR-EP SUS FRAC UG/L	XXXX.XXX	HEPTACHLOR EPOXIDE IN SUSP. FRAC. WAT SAMP (UG/L)
39423	HCHLR-EP MUD UG/KG	XXXXX.XX	HEPTACHLOR EPOXIDE IN BOT. DEP. (UG/KG DRY SOL.)

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
39430	ISODRIN WHL SMPL UG/L	XXXX.XXX	ISODRIN IN WHOLE WATER SAMPLE (UG/L)
39431	ISODRIN FLT FRAC UG/L	XXXX.XXX	ISODRIN IN FILT. FRAC. WATER SAMPLE (UG/L)
39432	ISODRIN SUS FRAC UG/L	XXXX.XXX	ISODRIN IN SUSP. FRAC. WATER SAMPLE (UG/L)
39433	ISODRIN MUD UG/KG	XXXXX.XX	ISODRIN IN BOTTOM DEPOS. (UG/KILOGRAM DRY SOLIDS)
39440	NHX WHL SMPL UG/L	XXXX.XXX	1,2,3,4,7,7-HEXACHLORO NORBORNADIENE-2,5 (UG/L)
39441	NHX FLT FRAC UG/L	XXXX.XXX	1,2,3,4,7,7-HEXACHLORO NORBORNADIENE-2,5 (UG/L)
39442	NHX SUS FRAC UG/L	XXXX.XXX	1,2,3,4,7,7-HEXACHLORO NORBORNADIENE-2,5 (UG/L)
39443	NHX MUD UG/KG	XXXX.XXX	1,2,3,4,7,7-HEXACHLORO NORBORNADIENE-2,5 (UG/KG)
39450	NHP WHL SMPL UG/L	XXXX.XXX	1,2,3,4,5,7,7-HEPTACHLORO NORBORNENE-2 WWS (UG/L)
39451	NHP FLT FRAC UG/L	XXXX.XXX	1,2,3,4,5,7,7-HEPTACHLORO NORBORNENE-2 FFS (UG/L)
39452	NHP SUS FRAC UG/L	XXXX.XXX	1,2,3,4,5,7,7-HEPTACHLORO NORBORNENE-2 SFS (UG/L)
39453	NHP MUD UG/KG	XXXXX.XX	1,2,3,4,5,7,7-HEPTACHLORO NORBORNENE-2 BD (UG/KG)
39460	CLRBNZLT WHL SMPL UG/L	XXXX.XXX	CHLOROBENZILATE IN WHOLE WATER SAMPLE (UG/L)

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
39470	DILAN WHL SMPL UG/L	XXXX.XXX	DILAN IN WHOLE WATER SAMPLE (UG/L)
39480	MTHXYCLR WHL SMPL UG/L	XXXX.XXX	METHOXYCHLOR IN WHOLE WATER SAMPLE (UG/L)
39530	MALATHN WHL SMPL UG/L	XXXX.XXX	MALATHION IN WHOLE WATER SAMPLE (UG/L)
39540	PARATHN WHL SMPL UG/L	XXXX.XXX	PARATHION IN WHOLE WATER SAMPLE (UG/L)
39550	CHLORTHN WHL SMPL UG/L	XXXX.XXX	CHLOROTHION IN WHOLE WATER SAMPLE (UG/L)
39560	DEMETON WHL SMPL UG/L	XXXX.XXX	DEMETON IN WHOLE WATER SAMPLE (UG/L)
39570	DIAZINON WHL SMPL UG/L	XXXX.XXX	DIAZINON IN WHOLE WATER SAMPLE (UG/L)
39580	GUTHION WHL SMPL UG/L	XXXX.XXX	GUTHION IN WHOLE WATER SAMPLE (UG/L)
39590	HEPT WHL SMPL UG/L	XXXX.XXX	HEPT IN WHOLE WATER SAMPLE (UG/L)
39600	MPARATHN WHL SMPL UG/L	XXXX.XXX	METHYL PARATHION IN WHOLE WATER SAMPLE (UG/L)
39610	PHOSDRIN WHL SMPL UG/L	XXXX.XXX	PHOSDRIN IN WHOLE WATER SAMPLE (UG/L)
39620	TEPP WHL SMPL UG/L	XXXX.XXX	TEPP IN WHOLE WATER SAMPLE (UG/L)
39730	2,4-D WHL SMPL UG/L	XXXX.XXX	2,4-D IN WHOLE WATER SAMPLE (UG/L)

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
39740	2,4,5-T WHL SMPL UG/L	XXXX.XXX	2,4,5-T IN WHOLE WATER SAMPLE (UG/L)
39750	SEVIN WHL SMPL UG/L	XXXX.XXX	SEVIN IN WHOLE WATER SAMPLE (UG/L)
39760	SILVEX WHL SMPL UG/L	XXXX.XXX	SILVEX IN WHOLE WATER SAMPLE (UG/L)
39900	ALLETHRN WHL SMPL UG/L	XXXX.XXX	ALLETHRIN IN WHOLE WATER SAMPLE (UG/L)
39910	CINERIN WHL SMPL UG/L	XXXX.XXX	CINERIN IN WHOLE WATER SAMPLE (UG/L)
39920	DNOC WHL SMPL UG/L	XXXX.XXX	DNOC IN WHOLE WATER SAMPLE (UG/L)
39930	PYRTHRNS WHL SMPL UG/L	XXXX.XXX	PYRETHRINS IN WHOLE WATER SAMPLE (UG/L)
50050	CONDUIT FLOW MGD	XXXX.XXX	FLOW IN CONDUIT OR THRU A TREATMENT PLANT (MGD)
50060	CHLORINE TOT RESD MG/L	XXXXX.XX	CHLORINE, TOTAL RESIDUAL (MG/L)
50064	CHLORINE FREE AVL MG/L	XXXXX.XX	CHLORINE, FREE AVAILABLE $MG/L<
50066	CHLORINE COMB AVL MG/L	XXXXX.XX	CHLORINE, COMBINED AVAILABLE (MG/L)
50030	PLANT BOD 5DAY INF MG/L	XXXXXX.X	BOD5 DAY 20C IN PLANT INFLUENT (MG/L)
50034	PLANT BOD 5DAY EFF MG/L	XXXXXX.X	BOD5 DAY 20C IN PLANT EFFLUENT (MG/L)

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
60050	ALGAE TOTAL /ML	XXXXXXXX	
60100	ALGAE COC BG /ML	XXXXXXXX	
60150	ALGAE FIL BG /ML	XXXXXXXX	
60200	ALGAE COC GRN /ML	XXXXXXXX	
60250	ALGAE FIL GRN /ML	XXXXXXXX	
60300	ALGAE FLAG.GRN /ML	XXXXXXXX	
60350	ALGAE FLAG/OTH /ML	XXXXXXXX	
60390	DIATOMS DOM SPEC % OF TOT	XXXXXXXX	
60391	% OF TOT DIATOMS 2ND SPEC	XXXXX.XX	PERCENT OF TOTALDIATOMS - SECONDDOMINANT SPECIES
60392	% OF TOT DIATOMS 3RD SPEC	XXXXX.XX	PERCENT OF TOTALDIATOMS - THIRD DOMINANT SPECIES
60393	% OF TOT DIATOMS 4TH SPEC	XXXXX.XX	PERCENT OF TOTALDIATOMS - FOURTHDOMINANT SPECIES
60394	% OF TOT DIATOMS OTH SPEC	XXXXX.XX	PERCENT OF TOTALDIATOMS - ALL OTHER SPECIES
60400	DIATOMS CENTRIC /ML	XXXXXXXX	

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
60500	DIATOMS PENNATE /ML	XXXXXXXX	
60610	INERT SHELLS CNTRC/ML	XXXXXXXX	INERT DIATOM SHELLS - CENTRIC /ML
60620	INERT SHELLS PNATE/ML	XXXXXXXX	INERT DIATOM SHELLS - PENNATE /ML
60820	PROTOZOA TOTAL /ML	XXXXXXXX	
60850	ROTIFERS TOTAL /LITER	XXXXXXXX	
60900	CRSTACEA TOTAL /LITER	XXXXXXXX	
60950	NEMTODES TOTAL /LITER	XXXXXXXX	
60990	ZOOPLANK OTHER /LITER	XXXXXXXX	
61390	1ST DOM SPECIES DIATOMS	XXXXXXXX	FIRST DOMINANT SPECIES OF DIATOMS UNITS - CODE
61391	2ND DOM SPECIES DIATOMS	XXXXXXXX	SECOND DOMINANT SPECIES OF DIATOMS UNITS - CODE
61392	3RD DOM SPECIES DIATOMS	XXXXXXXX	THIRD DOMINANT SPECIES OF DIATOMS UNITS - CODE
61393	4TH DOM SPECIES DIATOMS	XXXXXXXX	FOURTH DOMINANT SPECIES OF DIATOMS UNITS - CODE
70001	X SEC. COMPOSIT LOCATION	XXXXXXXX	COMPOSIT LOCATION IN A CROSS SECTION

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
70205	TIDE RANGE FEET +10	XXXXXX.X	RANGE (FEET) BETWEEN ADJACENT HIGH-LOW TIDES
70206	TIDE TIMING T/T +1	XXXXX.XX	MINS FROM LAST HIGH-LOW/MINS BETWEEN ADJ.H-LOWS
70207	TIDE RATE FT/HR+2	XXXXX.XX	RATE OF CHANGE OF TIDE HEIGHT APPROXIMATION
70209	CORRECT-ED HIGH TIDES	XXXXXXXX	CORRECTED HIGH TIDES
70210	CORRECT-ED LOW TIDES	XXXXXXXX	CORRECTED LOW TIDES
70211	TIDE STAGE	XXXXXXXX	HIGH OR LOW,BEFORE OR AFTER,HOUR,MINUTE
70299	RES-SUSP AT 180 C MG/L	XXXXXXXX	SUSP. SOLIDS - RESIDUE ON EVAP. AT 180 C (MG/L)
70300	RESIDUE AT 180 C MG/L	XXXXXXXX	DISS. SOLIDS - RESIDUE ON EVAP.AT 180 C (MG/L)
70301	SUM MG/L	XXXXXXXX	DISS. SOLIDS- SUM OF CONSTITUENTS (MG/L)
70302	TONS/DAY	XXXXX.XX	DISSOLVED SOLIDS- TONS PER DAY
70303	TONS PER AC-FT	XXXXX.XX	DISSOLVED SOLIDS- TONS PER AC-FT
70305	SALINITY CNDUCTVY G/L	XXXXXX.X	SALINITY BASED ON CONDUCTIVITY
70307	PERCENT SEA WATER	XXXXXX.X	PER CENT SEA WATER

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
70310	PH SU BOT MUD	XXXXXX.X	PH, STANDARD UNITS, BOTTOM MUDS
70320	WET CAKE PERCENT MOISTURE	XXXXXXXX	PERCENT MOISTURE OF TOTAL WET CAKE
70321	TOTAL WET CAKE TONS/DAY	XXXXX.XX	TOTAL WET CAKE FROM WASTE TREAT TONS/DAY
70322	RESIDUE TOT VOL PERCENT	XXXXXXXX	PERCENT OF TOTAL VOLATILE SOLIDS
70323	RES-TOT NFLT MIX LIQ MG/L	XXXXXXXX	TOTAL NONFILT RESIDUE OF MIXED LIQUOR - MG/L
70505	T PO4 P-COL MG/L	XXXXX.XX	PHOSPHATE,TOTAL,COLORIMETRIC METHOD (MG/L AS P)
70506	SOL PO4-T P-COL MG/L	XXXXX.XX	PHOSPHATE,TOT SOL COLORIMETRIC METH (MG/L AS P)
70507	PHOS-T ORTHO MG/L-P	XXXX.XXX	PHOSPHORUS-TOTAL ORTHO, SOL (MG/L AS P)
70508	T ACIDITY HOT-MG/L CACO3	XXXXXXXX	ACIDITY-TOTAL, HOT (MG/L AS CACO3)
71000	ABUNDANT ALGCOUNT 1ST DOM	XXXXXXXX	COUNT LEVEL OF MOST ABNDNT ALGAE1ST DOMINANT /ML
71001	ABUNDANT ALGCOUNT 2ND DOM	XXXXXXXX	COUNT LEVEL OF MOST ABNDNT ALGAE2ND DOMINANT /ML
71002	ABUNDANT ALGCOUNT 3RD DOM	XXXXXXXX	COUNT LEVEL OF MOST ABNDNT ALGAE3RD DOMINANT /ML
71003	ABUNDANT ALGCOUNT 4TH DOM	XXXXXXXX	COUNT LEVEL OF MOST ABNDNT ALGAE4TH DOMINANT /ML

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
71004	ABUNDANT ALGCOUNT 5TH DOM	XXXXXXXX	COUNT LEVEL OF MOST ABNDNT ALGAE5TH DOMINANT /ML
71005	ABUNDANT ALGCOUNT 6TH DOM	XXXXXXXX	COUNT LEVEL OF MOST ABNDNT LAGAE6TH DOMINANT /ML
71006	ABUNDANT ALGCOUNT 7TH DOM	XXXXXXXX	COUNT LEVEL OF MOST ABNDNT ALGAE7TH DOMINANT /ML
71007	ABUNDANT ALGCOUNT 8TH DOM	XXXXXXXX	COUNT LEVEL OF MOST ABNDNT ALGAE8TH DOMINANT /ML
71008	ABUNDANT ALGCOUNT 9TH DOM	XXXXXXXX	COUNT LEVEL OF MOST ABNDNT ALGAE9TH DOMINANT /ML
71009	ABUNDANT ALGCOUNT 10TH DOM	XXXXXXXX	COUNT LEVEL OF MOST ABNDNT ALGAE10TH DOMINANT /ML
71010	ABUNDANT ALGGENUS 1ST DOM	XXXXXXXX	GENUS OF MOST ABUNDANT ALGAE 1ST DOMINANT /ML
71011	ABUNDANT ALGGENUS 2ND DOM	XXXXXXXX	GENUS OF MOST ABUNDANT ALGAE 2ND DOMINANT /ML
71012	ABUNDANT ALGGENUS 3RD DOM	XXXXXXXX	GENUS OF MOST ABUNDANT ALGAE 3RD DOMINANT /ML
71013	ABUNDANT ALGGENUS 4TH DOM	XXXXXXXX	GENUS OF MOST ABUNDANT ALGAE 4TH DOMINANT /ML
71014	ABUNDANT ALGGENUS 5TH DOM	XXXXXXXX	GENUS OF MOST ABUNDANT ALGAE 5TH DOMINANT /ML
71015	ABUNDANT ALGGENUS 6TH DOM	XXXXXXXX	GENUS OF MOST ABUNDANT ALGAE 6TH DOMINANT /ML
71016	ABUNDANT ALGGENUS 7TH DOM	XXXXXXXX	GENUS OF MOST ABUNCANT ALGAE 7TH DOMINANT /ML

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
71017	ABUNDANT ALGGENUS 8TH DOM	XXXXXXXX	GENUS OF MOST ABUNDANT ALGAE 8TH DOMINANT /ML
71018	ABUNDANT ALGGENUS 9TH DOM	XXXXXXXX	GENUS OF MOST ABUNDANT ALGAE 9TH DOMINANT /ML
71019	ABUNDANT ALGGENUS 10TH DOM	XXXXXXXX	GENUS OF MOST ABUNDANT ALGAE 10TH DOMINANT /ML
71200	SALMNLLA MF COL/ 100ML	XXXXXXXX	SALMONELLA MEMBRANE FILITER
71205	COLIFORM MPN PERS /100ML	XXXXXXXX	COLIFORM,MOST PROBABLE NUMBER, PERSUMPTIVE
71800	UREA MG/L	XXXXX.XX	UREA MG/L
71801	PROTEIN MG/L	XXXXX.XX	TOTAL PROTEIN MG/L
71802	AMINO ACIDS MG/L	XXXXX.XX	AMINO ACIDS MG/L
71820	DENSITY GM/ML	XXXX.XXX	DENSITY (GM/ML AT 20 C)
71825	T ACDITY AS H MG/L	XXXXXX.X	ACIDITY, TOTAL (MG/L AS H)
71830	OH ION OH MG/L	XXXXXX.X	HYDROXIDE ION (MG/L AS OH)
71835	OC - FIL OC MG/L	XXXXXX.X	OXYGEN CONSUMED -FILTERED (MG/L)
71840	OC-UNFIL OC MG/L	XXXXXX.X	OXYGEN CONSUMED-UNFILTERED (MG/L)

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
71845	AMMONIA NH4 MG/L	XXXXXX.X	AMMONIA NITROGEN(MG/L AS NH4)
71850	NITRATE NO3 MG/L	XXXXXX.X	NITRATE (MG/L ASNO3)
71855	NITRITE NO2 MG/L	XXXXX.XX	NITRITE (MG/L AS NO2)
71860	RSC	XXXXXX.X	RESIDUAL SODIUM CARBONATE
71865	IODIDE I MG/L	XXXXX.XX	IODIDE (MG/L AS I)
71870	BROMIDE BR MG/L	XXXXX.XX	BROMIDE (MG/L ASBR)
71875	H2S MG/L	XXXXXX.X	HYDROGEN SULIFIDE- MG/L
71876	SOAPS MG/L	XXXXXX.X	RESIN ACID SOAPS (MG/1)
71880	FORMALDE HYDE MG/L	XXXXXX.X	FORMALDE HYDE (MG/L)
71885	IRON FE MG/L	XXXXX.XX	IRON (MG/L AS FE
71886	TOTAL P AS PO4 MG/L	XXXXX.XX	TOTAL PHOSPHORUS AS PO4 - MG/L
71887	TOTAL N AS NO3 MG/L	XXXXXX.X	TOTAL HITROGEH AS NO3 -MG/L
74001	1960 POP	XXXXXXXX	

CODE	COMPUTER PRINTOUT ABBREVIATION	DECIMAL POINT LOCATION	PARAMETER
74002	POP SERVED	XXXXXXXX	
74003	DESIGN CAPACITY P.E.	XXXXXXXX	
74004	PE LOAD BEFORE TREAT	XXXXXXXX	
74005	PE LOAD AFTER TREAT	XXXXXXXX	
74010	IRON FE MG/L	XXXXX.XX	TOTAL IRON AS FE - MG/L
74020	FLOW PUMP OUT MGD	XXXXX.XX	FLOW - PUMP OUT, MGD
74021	EXCESS ALKALNTY MG/L	XXXXXXXX	EXCESS ALKALINITY, MG/L
74022	TURB SUPERNAT MG/L	XXXXXXXX	TURBIDITY OF SUPERNATANT, MG/L
60000	ALPHA ACTIVITY PC/MG	XXXX.XXX	
60001	BETA ACTIVITY PC/MG	XXXXXXXX	

FEDERAL INFORMATION
PROCESSING STANDARD 5

November 1, 1968

Specifications For
STATES OF THE UNITED STATES

1. Name of Standard. States of the United States.
2. Category of Standard. Federal General Data Standard, Representations and Codes.
3. Explanation. This standard provides identification and codes for representing the 50 States, the District of Columbia, and the outlying areas, all of which are considered to be "first order subdivisions" of the United States.
4. Specifications.

Table 1. States of the United States (including the District of Columbia) with their assigned codes.

Name	Code	Name	Code
Alabama	01	Missouri	29
Alaska	02	Montana	30
Arizona	04	Nebraska	31
Arkansas	05	Nevada	32
California	06	New Hampshire	33
Colorado	08	New Jersey	34
Connecticut	09	New Mexico	35
Delaware	10	New York	36
District of Columbia	11	North Carolina	37
Florida	12	North Dakota	38
Georgia	13	Ohio	39
Hawaii	15	Oklahoma	40
Idaho	16	Oregon	41
Illinois	17	Pennsylvania	42
Indiana	18	Rhode Island	44
Iowa	19	South Carolina	45
Kansas	20	South Dakota	46
Kentucky	21	Tennessee	47
Louisiana	22	Texas	48
Maine	23	Utah	49
Maryland	24	Vermont	50
Massachusetts	25	Virginia	51
Michigan	26	Washington	53
Minnesota	27	West Virginia	54
Mississippi	28	Wisconsin	55
		Wyoming	56

NOTE: The following codes are reserved for possible future use in identifying American Samoa (03), Canal Zone (07), Guam (14), Puerto Rico (43), and Virgin Islands (52).

Table 2. Outlying areas of the United States with their assigned codes.

Name	Code	Notes
American Samoa	60	Territory in the Pacific.
Canal Zone	61	Territory Leased by the United States.
Canton and Enderbury Islands	62	Pacific Islands under joint U.S.-U.K. administration.
Caroline Islands	63	Part of the Trust Territory of the Pacific Islands (U.S. administered). Includes Eauripik, Faraulep, Ifalik, Kapingamarangi, Namonuito, Ngatik, Ngulu, Nukuoro, Oroluk, Pingelap, Pulap, Puluwat, Ulithi, West Fayu, and Woleai atolls; Hall Mortlock, Palau, Senyavin, Sonsorol, Truk, and Yap island groups; and Angaur, Babelthuap, Fais, Gaferut, Helen, Kusaie, Merir, Peleliu, Ponape, Pulo Anna, Pulusak, Satawal, and Tobi Islands.
Cook Islands	64	That portion of the Cook Islands claimed by the United States; namely, Danger, Manahiki, Penrhyn, and Rakahanga atolls.
Gilbert and Ellice Islands	65	That portion of the Gilbert & Ellico Islands claimed by the United States; namely; Christmas (Line); Funafuti, Nukufetau, Nukulailai and Nurakita (Ellice); and Birnie, Gardner, Hull, McKean, Phoenix, and Sydney (Phoenix).
Guam	66	U.S. territory in the Pacific.
Johnston Atoll	67	U.S. territory in the Pacific. Includes Sand Island.
Line Islands-Southern	68	That portion of the Line Islands claimed by the United States; namely, Caroline, Flint, Malden, Starbuck, and Vostok Islands.
Mariana Islands	69	Part of the Trust Territory of the Pacific Islands (U.S. administered). Includes Agrihan, Aguijan, Alamagan, Anatahan, Asuncion, Farallon de Medinilla, Farallon de Pajaros, Guguan, Pagan, Rota, Saipan, Sarigan, Tinian, and the Maug Islands. Excludes Guam.
Marshall Islands	70	Part of the Trust Territory of the Pacific Islands. (U.S. administered). Includes the Ratik and Ratak chains; Ailinglapalap, Arno, Bikini, Ebon, Eniwetok Jaluit, Kwajalein, Majuro, Maloelap, Mili, Namorik, Rongelap, Taongi, Ujelang, Utirik, and Wotje atolls; and Kili Islands.
Midway Islands	71	U.S. territory in the Pacific.
Puerto Rico	72	Commonwealth associated with the United States.
Ryukyu Islands-Southern	73	U.S. administered islands in the Pacific south of 27° North Latitude. Includes Tori-Shima (27° 52' No. Lat.; 128° 14' E. Long.) and the Daito-Jima.
Swan Islands	74	U.S. territory in the Caribbean.
Tokelau Islands	75	That portion of the Tokelau Islands claimed by the U.S.; namely, Atafu, Fakaofu, and Nukunono.
U.S. Misc. Caribbean	76	Includes Navassa Island, Quito Sucno Bank, Roncador Cay, Serrana Bank and Serranilla Bank.
U.S. Misc. Pacific Islands	77	Includes Kingman Reef, Howland, Baker and Jarvis Islands, and Palmyra Atoll.
Virgin Islands	78	U.S. territory in the Caribbean.
Wake Island	79	U.S. territory in the Pacific.

5. Qualifications. None.

44B